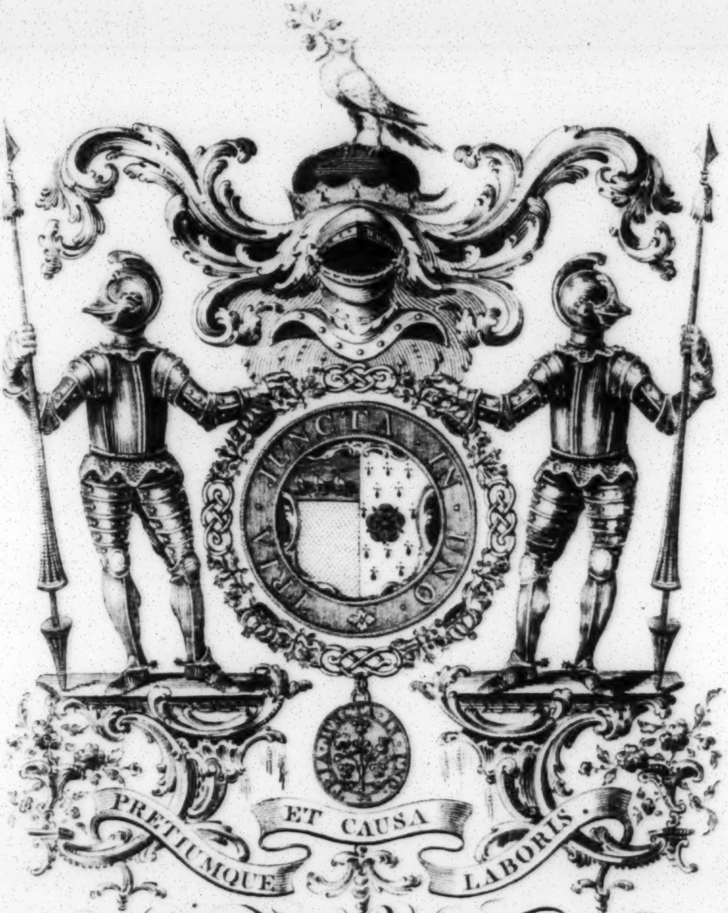

S^r. Charles Frederick.
Surveyor General of the Ordnance

[illegible]

Purchased
by Order of the Committee
June 7. 1786

6/8/1

THE DOCTRINE OF GOLD and SILVER Computations;

In which is included,

That of the PAR of Money:

The Proportion in Value between
GOLD and SILVER;

And the

Valuation of GOLD, SILVER, and
PARTING ASSAYS:

With uſeful

TABLES and COPPER-PLATES.

By THOMAS SNELLING.

LONDON:
Printed for T. SNELLING, next the
Horn Tavern, *Fleet-ſtreet.*
M.DCC.LXVI.
Who buys and ſells all Sorts of Coins and Medals.

10

MVSEVM
BRITAN
NICVM

THE

PREFACE.

THE two principal objects attended to in the following work, is firſt the mixing of a fine metal with a baſe one, in different proportions; and ſecondly, the value of the maſs according to the quantity of fine metal contained in it.

In regard to the firſt, it appears from the method of notation uſed in this kingdom, to diſtinguiſh the different qualities of ſilver, that there may be 480 ſorts of it, or from that which has but an halfpennyweight, in a lb. weight, and ſtill increaſing by an halfpenny weight until the whole lb. is fine ſilver; and by the notation uſed for gold there may be 384 ſorts, each differing by one quarter carat grain, or from that which has but one quarter of a carat grain, to that which is quite fine; and when theſe two metals are mixed with copper, and the quantity of each is to be taken notice of, as in parting, there may be 460800 different manners in which they may be mixed, and reports made of them accordingly, which ſhews how copious this part of the ſubject is.

That particular mixture which has 37 parts fine metal, and 3 parts baſe, is what our legiſlature has fixed upon, out of which both money and plate is to be made in ſilver; and that mixture which has 33 parts fine, and 3 parts baſe, to be that from which gold coin and work is to be made; theſe mixtures are called ſtandard ſilver and ſtandard gold, and certainly are ſo termed with great propriety, as they have been ſo ſteadily adhered to for 500 or 600 years, eſpecially the former, and the latter about half that time, the former is likewiſe generally known by the name of ſterling, which it has received from our penniy or ſterling being always made of it.

And this is the reaſon that enquiries are not made, what quantity of fine gold or fine ſilver is contained in any mixture, which ſeems to be the moſt natural enquiry, but how much ſtandard they hold.

And on this account it is that tables have been calculated of the quantities of ſtandard contained in any determinate weight of any other mixture; theſe ſort of tables were firſt publiſhed An. 1651, by Mr. Reynolds, aſſay maſter at the Mint in the Tower, and afterwards with corrections and additions again in 1677, at the end of a book, entitled, *The Touchſtone of Gold and Silver Wares*; the tables we have added in our work are in ſubſtance the ſame as thoſe, but we have given the weights in ounces only, inſtead of pounds and ounces, and we have divided the grain only into 8th parts, inſtead of mites and parts of a mite as he has done.

Our other tables for ſtandarding gold or ſilver that is worſe, with gold or ſilver that is better, ſhewing by inſpection how much of the latter is to be added to one ounce of the former to ſtandard it, is entirely new, and we do not doubt but it will be found very uſeful.

The ſecond of the two principal objects in this work is the value of the mixture, and this is always ruled by that of one ounce of ſtandard both in ſilver and gold, which method is different from that of moſt foreign nations, where the value of the mark of 8 ounces of fine gold or fine ſilver is that, from which all mixtures are calculated, and receive their price according to the aſſay, the manner of computing which we have given at large, as alſo a very compendious one for common uſe, by means of little tables for gold, ſilver and *parting* aſſays, which laſt we do not remember has been hitherto treated on by any writer.

As to the particular application of the doctrine of value to aſcertain the par of money, we think it is conſidered in a different light from moſt of our writers, as they only tell us what it is, without giving the requiſite data of weight and fineneſs, and therefore we cannot either find it ourſelves, or know whether what they have given us is true or falſe, and the ſame circumſtance attends the diſcovery of the proportion between gold and ſilver; finally, as the preſent work is the firſt, as far as we can learn, that has been wrote *profeſſedly* upon the ſubject, we flatter ourſelves it will be found the more agreable, however we ſubmit the whole as it is, to the judgment and candour of thoſe whoſe inclination or employment may lead them to conſider this very curious and uſeful ſpecies of computation.

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PRÆCOGNITA.

I. BY the word SILVER we underſtand, not only the metal ſo called, pure and unmixed, but alſo when in a maſs with copper; and if but one half, two thirds, or any other proportional part of it be ſilver, yet the whole bears that name.

II. The ſame is to be underſtood of GOLD, when by itſelf, or in a maſs with ſilver and copper together, or with either of them alone.

III. None but the pure ſilver and pure gold are of any value, and therefore in the maſſes, wherein but $\frac{1}{2}$ or $\frac{2}{3}$ are fine metal, one ounce or one pound of them, are of no more value than one half, or two thirds of an ounce, or a pound of fine ſilver or fine gold.

IV. The copper that is mixt with the ſilver, as alſo the copper and ſilver that is mixt with the gold, is called the allay or alloy.

V. In order to find the number of parts that are fine, and the number of them that are alloy, a ſmall quantity of any maſs is generally taken, which is called an aſſay piece, or tryal piece; for from this the aſſayor or aſſay maſter (as the Perſon is called who tries it) determines that of the whole maſs, and the reſult of this operation is called the aſſaymaſter's REPORT.

VI. Every piece of ſilver, whether bullion or money, let its weight be what it will, is ſuppoſed to conſiſt of 12 parts (*a*) called ounces, and each of them, of twenty parts called pennyweights, or of 240 pennyweights; and the half of this pennyweight, or the 48oth part, is the ſmalleſt made uſe of in ſilver.

VII. In gold every entire piece as above ſaid, is ſuppoſed to conſiſt of 24 parts called carats (*b*) each of which is divided into 4 grains, and each grain into 4 quarters; that is, 96 carat grains, and 384 quarter carat grains, which is the ſmalleſt part noted in gold.

VIII. Theſe ounces, pennyweights, and grains, are thus marked in the report j, ij, iij, iiij, v, vj, vij, viij, ix, x, xj, xij, xiij, xiiij, xv, xvj, xvij, xviij, xix, xx, xxj, xxij, xxiij, and the half penny weight is marked ob for obolus.

(*a*) The number of parts into which the ſupreme degree of fineneſs for ſilver is divided in England, as alſo the names given to them, are borrowed from, and agree with, the weights made uſe of in weighing theſe metals; it is the ſame likewiſe in France, Spain, and many other places, with regard to their denier being divided into 24 grains, but not in the mark being 12 deniers; however, in Germany their expreſſions for fineneſs, and denominations of weight are 16 lodig each 18 grains, or 288 grains make one mark fine, and the ſame number of lodigs and grains are in their mark weight, ſo likewiſe in China their diviſion of fineneſs into 100 touches, bear a relation to that of the tale into 100 candareens.

(*b*) The carat in moſt places is a nominal weight only, not borrowed from any real weight, but conſidered as the 24th part of a pound, an ounce, &c. They divide it into $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, and $\frac{1}{32}$ in France and Spain, which laſt agrees with our $\frac{1}{2}$ quarter carat grain; in Germany they divide it into 12 grains, and therefore their fine gold and fine ſilver conſiſts of the ſame number of grains, viz. 288. But in Venice it is alſo a real weight, as well as an expreſſion of fineneſs both for gold and ſilver, the mark weight conſiſting of 1152 carats, and their ſupreme degree of fineneſs the ſame.

IX. In England eleven ounces two pennyweights of fine ſilver, and eighteen pennyweights of copper, make one pound weight of ſilver of the fineneſs eſtabliſhed by law, and is called STANDARD ſilver; that is, ſilver of 11 $\frac{1}{10}$ oz. or 11 oz. 2 dwt. or 222 dwt. fine.

X. And the fineneſs of the gold eſtabliſhed by law, or that called STANDARD gold, conſiſts of 22 carats of fine gold, and 2 carats of alloy, which is equivalent in its fineneſs to 11 ounces of fine, and 2 ounces of allay in ſilver.

XI. The aſſay maſter does not report the abſolute fineneſs, or quantity of fine ſilver or fine gold, but only the relative quantity or fineneſs; that is, how much it is more or leſs than ſtandard, as if it was ſilver of 10 oz. fine, he puts down Wo. $\overset{oz}{j.}$ $\overset{dwt}{ij,}$ or if 11 oz. 8dwt. he puts down Br. $\overset{dwt}{vi.}$ and in gold of 20 carats fine he puts down Wo. $\overset{car.}{ij,}$ and if it is 23 car. 3 gr. $\frac{1}{2}$ fine, he puts Br. $\overset{ca}{j,}$ $\overset{gr}{iij,}$ ob.

XII. The quantity of betterneſs or worſeneſs in any ingot, being added to, or ſubſtracted from the weight of it, gives the quantity of ſtandard contained in it.

XIII. That maſs wherein there is a mixture of gold, and the quantity of that as well as the ſilver, is to be reported; ſuch an aſſay is called a PARTING ASSAY, in which the ſilver is to be reported as uſual, how much better or worſe it is than ſtandard; but the gold contained in it is reported by its quantity in ounces, as if an ingot has 9 oz. of fine ſilver and 1$\frac{1}{2}$oz. of fine gold, it is reported W. $\overset{oz}{j.}$ $\overset{dwt}{ij.}$ fine gold $\overset{oz}{j.}$ $\overset{dwt}{iiij.}$

XIV. That part of this work which has for its object the relation, which the groſs weight, fine weight, and ſtandard weight contained in two or more ingots, have to each other, we call the doctrine of quantity.

XV. In which enquiries, there are always three terms given to find a fourth; that is, the weight and fineneſs of one ingot, and either the weight of another ingot to aſcertain its fineneſs, or the fineneſs to aſcertain its weight; which are in reciprocal proportion to each other, and the product of the weight of each ingot multiplied into its fineneſs, are equal *

XVI. And when ſeveral ingots are melted together, differing from each other both in weight and in fineneſs; the ſum of the products of the weight and fineneſs of each ingot being added together, will be equal to the product of the weight and fineneſs of the maſs.

XVII. The ſame thing occurs likewiſe with ingots of parting, wherein the ſeveral products of the groſs weight multiplyed into the quantity of gold for the gold, and that of the ſilver and alloy into the fine ſilver for the ſilver; being added together, will be equal to the groſs weight of the maſs multiplied into its fine gold, and the ſilver and alloy into its fine ſilver.

XVIII. That part of this work which beſides weight and fineneſs, has alſo value under its conſideration, we call the doctrine of value.

XIX. In thoſe caſes where the weight of two ingots are the ſame, but of different fineneſſes, or the fineneſs the ſame but of different weights; there are alſo three terms given to find a fourth, and are in direct proportion, the value increaſing or de-

---

* In the two ingots A and B, if $a =$ the wt. and $b =$ the fineneſs of A; $c =$ the wt. and $d. =$ the fineneſs of B. Then as $c : a :: b : d \therefore ab = cd$.

decreaſing as the weight or fineneſs, and the product of the weight of each ingot into the value of the other are equal. §

XX. But in thoſe caſes where the weight and fineneſs of two ingots are both different, then the value is directly as the product of the weight and fineneſs of one of them, to the product of the weight and fineneſs of the other. ‡

XXI. And there are always five terms given to find a ſixth; that is, the value of an ingot, or piece of the weight of one ounce of ſtandard, with its price per oz. and either the weight and fineneſs of another ingot, to find its value, or the weight and value, to aſcertain its fineneſs, or the fineneſs and value to aſcertain its weight; and all the caſes relating to the par, and proportion of money, are thus circumſtanced.

§ Let $x =$ the value of A, and $z =$ that of B, then as $c : x :: a : z$ and as $b : x : d : z$, that is $ax = cz$, and $dx = bz$.

‡ As $ab : x :: cd : z \because abz = cdx$.

The Doctrine of Quantity.

CASE I.

Given the groſs weight, and the fineneſs, or report, to find the quantity of fine metal and alloy. Præcog. XV.

Example 1. An ingot of ſilver which weighs 256 oz. is reported Br. $\overset{\text{dw}^{ts}}{\text{vj.}}$ what is the quantity of fine ſilver and alloy in it ?

```
        dwt.
To      222  the fine parts in ſtandard
Add       6  thoſe of the report
        ---
        228  fine parts in the ingot

     dwt'   oz.     dwt.   oz.  dwt.
Then 240 : 256 :: 228 : 243   4
           228
          ----
          2048
           512        oz. dwt.
          512         256 – 0   groſs wt.
   24|0)5836|8 (243 – 4   fine ſilver
                      -------
          103          12  16  alloy
           76
Remains    48
           20
     24|0)96|0(4 dwt.
```

The alloy is found directly as follows:

dwt.
From 240 total number of fine parts
Take 228 thoſe of the ingot
Remains 12

dwt. oz. dwt.
Then as 240 : 256 :: 12 :
12
240)307|2(12 oz. 16 dwt. alloy
67
192
20
24|0)384|0(16 dwt.
144

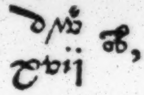
Example 2. An ingot of gold weighing 235 oz. 16 dwt. 18 gr. reported Wo. $\overset{\text{cr}}{\text{j.}}\ \overset{\text{gr}}{\text{ij.}}$ how much fine gold is contained in it?

car. cr. gr.
From 22 or 88 fine parts in ſtandard
Take $1\frac{1}{2}$ or 6 thoſe in the report
Remains 82 fineneſs of the ingot

car. gr. oz. dwt. gr. ca. gr. oz. dwt. gr.
As 96 : 235 16 18 :: 82 : 201 – 8 – 21
20
4716
24
18882
9432
113202
82
226404
905616
24) 2|0)
96)9282564 (96693(402|8
642 693 201 8 21 fine gold
665 213
896 21 grains
324
36

CASE II.

Given the fine weight, and the report, required the groſs weight. Præcog. XV

Example 3. An ingot contains 387 oz. 17 dwt. of fine ſilver, and is reported Wo. , what is the groſs weight of it?

dwt. ½dwt.
From 222 or 444 fine parts in ſtandard
Take 17½ or 35 thoſe of the report

409 thoſe in the ingot

½dwt. oz. dwt. ½dwt.
As 409 : 387 – 17 :: 480
20

7757
480

620560
31028 20)
409)3723360(910|3
423 455–3 groſs wt.
1460

remains 233

Example 4. An ingot of gold reported Br. $\overset{\text{cr}}{1}\cdot\overset{\text{gr}}{1}$ which has 127 oz. 15 dwt. 3 gr. of fine gold, what is the groſs weight of it?

```
        car. gr.
To        88    fine parts in ſtandard
Add        5    thoſe in the report
          93    thoſe in the ingot

    car. gr.  oz.     dwt.   gr.       cr. gr.   oz.  dwt.    gr.
As      93  :  127  -  15  -  3  ::   96   :  131  -  17  -  18
                20
              ----
              2555
                24
              ----
             10223
             5110
            ------
             61323
                96
            ------
            367938
           551907   24) gr.   2|0)dwt.
     93)5887008(    63301(   263|7
          307        153       131-17-13 groſs wt.
           280        90
            108      181
           ----     -----
             15       13 gr.
```

CASE III.

Given the fineneſs, or the report, and the weight of alloy to find the groſs weight. *Præcog.* XV.

Example 5. An ingot of ſilver is reported Wo. $\overset{\text{oz}}{\text{j.}}$ $\overset{\text{dwt}}{\text{vj.}}$ and contains 27 oz. 17 dwt. of alloy, what is the weight of the ingot.

```
     dwt.
To    18 the alloy in ſtandand
Add   26 that of the report
     ———
      44

     dwt.  oz. dwt.     dwt.   oz. dwt.
As   44 :  27  17  ::  240  :  151  18
           20
          ———
          557
          240
         ————
         2228
        1114
        ———————— 20)
    44)133680 (303|8
          168    151 18 groſs wt.
           360
          ———
remains     8
```

Example 6. An ingot of gold reported Br. $\overset{\text{tar}}{\text{j.}}$ $\overset{\text{gr}}{\text{iij.}}$ and which has 21 oz. 2 dwt. 18 gr. of alloy, what is the groſs weight.

car. gr.
From 8 alloy in ſtandard
Take 3 that of the report
5

car. gr. oz. dwt. gr. car. gr. oz. dwt. gr.
Then as 5 : 21 2 18 :: 96 : 381 16 19
8
169 2 0
12
5)2029 4 0
405 16 19 the groſs wt.

We have here multiplied the weight as it ſtands, without reducing it into grains.

CASE IV.

Given the groſs weight, and the fine weight, required the report or fineneſs. *Præcog.* XV.

Example 7. An ingot of ſilver weighing 722 oz. 10 dwt. and containing 620 oz. 3 dwt. of fine ſilver, what is the fineneſs of it?

oz. dwt. dwt. oz. dwt. dwt.
As 722 10 : 240 :: 620 3 : 206
20 20
14450 12403
240
496120
24806
Dwts
1445|0) 297672|0(206 fine or Wo. xvj.
8672
remains 20 parts of a dwt.

Example 8. The groſs weight of an ingot of gold is 82 oz. 15 dwt. 6 gr. of which 77 oz. 11 dwt. 20 gr. is fine gold, what is the fineneſs of it?

oz. dwt. gr. car. gr. oz. dwt. gr. car. gr.
As 82 15 6 : 96 :: 77 11 20 : 90
20 20
1655 1551
24 24
6626 6224
3310 3102
39726 37244
96
223464
335196
ca. gr. car gr
39726)3575424 (90 or Br. ij.
88 fine pt. in ſtan.
remains 84
2 report

C A S E V.

Given the groſs weight, and the weight of the alloy, required the report or fineneſs. *Præcog.* XV.

Example 9. An ingot of ſilver which weighs 288 oz. 11 dwt. of which 39 oz. 14 dwt. is alloy, what is the fineneſs of the ingot?

As

oz. dwt. oz. dwt. dwt.
As 288 11 : 240 :: 39 14 : 33
20 20

5771 794
240

31760
1588

dwt
5771)190560(33 or Wo. [illegible].
17430 18 alloy in ſtand.

remains 117 15 report

Example 10. An ingot of gold which weighs 48 oz. 17 dwt. 20 gr. has 1 oz. 15 dwt. 16 gr. of alloy, what is the fineneſs?

oz. dwt. gr. oz. dwt. gr.
As 48 17 20 : 96 :: 1 15 16
20 20

977 35
24 24

3928 156
1954 70

23468 856
96

5136
7704

cr. gr. tar gr
23468)82176(3 2 or Br. j. ij.
11772 2 0 alloy in ſtand.
4

1 2 repcrt
22962)47088(2

1164

CASE

CASE VI.

Given the groſs weight and the fineneſs or report, required the weight of ſtandard. *Præcog.* XV.

Example 11. A ſilver ingot weighs 215 oz. 12 dwt. and is Br. $\overset{\text{dwt}}{\text{x}}$ ob how much ſtandard does it contain?

```
             dwt.     oz. dwt.      dwt.     oz. dwt.
          As 222  :  215  12  ::  232½   :  225  16 ferè
                      20
     dwt.            ----
 To  222             4312
 Add  10½             232½
     ----            ----
     232½            8624
                   12936
                   8624
                     2156
                 ----------  20)
            222)1002540(  451|5
                   1145     225  15 35/37 ſtand.
                    354
                    1320
                   -----
       remains      210
```

Example 12. An ingot of gold weighing 145 oz. 4 dwt. 12 gr. is reported Wo. $\overset{\text{car}}{\text{j.}}$ $\overset{\text{gr}}{\text{iij.}}$ how much ſtandard is there in it?

```
             ca. gr.  oz.  dwt. gr.    cr. gr.
          As 88  :  145  4  12  ::  81
                    20
   car.   ca. gr.  ----
From 22   or 88    2904
 Take 1¾  or  7      24
 ----     ----     ----
  20¼  or 81      11628
                  5808
                  -----
                  69708
                     81
                  -----
                  69708
                 557664
                -------- 24)      20)
          88)5646348(64163(267|3
               366      161    133 13 11 stand.
                143     176
                 554     83
                  268   ----
                  ---    11 grains
                   4
```

The work of this queſtion will be much ſhorter by multiplying the denominations as they ſtand, without reducing them into grains.

```
     oz. dwt. gr.              oz.   dwt  gr.
     145  4  12                145    4   12
              9                          20¼
     -----------               -------------
    1307  0  12               2904   10    0
              9                 36    6    3
    ------------              --------------
  8)11763  4  12             2)2940  16    3
 11) 1470  8   1½           11)1470   8    1½
      133 13  11 ſtan.          133  13   11
```

But the beſt method to reſolve theſe queſtions, is by finding the betterneſs, or worſeneſs, according to the report, and either adding it to, or ſubſtracting it from the groſs weight. Thus the two laſt examples will be anſwered as follows : *Præ.* 12.

```
        dwt.      oz. dwt.    dwt.   ca. gr.    oz. dwt. gr.
As 222   :   215  12  ::  10½    88  :   145    4   12
              20                                     7
           ---------                   -----------------
            4312                 8)1016    11   12
              10½               11) 127     1   10½
          ---------                 -----------------
           43120              take   11    11    1
            2156              from  145     4   12
          ---------  20)            -----------------
222)45276(  20|3                    133    15   11
      876   -----
remains 210  10  3  to
           215  12  add
           ---------
            225 15  ſtand.
```

This is the moſt uſeful Caſe in the whole doctrine, and that by which all the tables for ſtandarding are calculated ; and as thoſe of Mr. Reynolds's are the beſt known, we ſhall ſhew now in what manner they have been form'd, to underſtand which, it ſhould be premiſed, that the troy grain is divided into 20 mites, and the mite into 37 parts.

Example 13. How much ſtandard is contained in one pennyweight of ſilver Wo. 11 oz. 1½ dwt. that is 221½ dwt. or 443 half pennyweights worſe.

```
      ½dwt.
From  444 in ſtandard
Take  443 in the report
      ---
        1

     ½dwt. dwt.   ½dwt. dwt.          gr. m. pt.
Then 444  :  1  ::  1  : 1/444th  =   0   1   3  in 1 dt.
            24                                20
           ---                        ----------
            24              ſtan.     1   1  23  in 1oz.
             20 mites in 1 dwt.                12
           ----                       ----------
     444)480(1 mite         ſtan.    12  19  17  in 1lb.
           36
           37 parts in 1 mite
         ----
          252
         108
         ----
     444)1332(3 parts
         ----
```

The ſtandard in 1 dwt. being thus found, by addition we have all thoſe from thence to 1 oz. to 1 lb. and ſo on to 500 lb.

These operations being repeated for each ½ dwt. will form Mr. Reynolds's ſilver tables.

Example

Example 14. How much ſtandard does 1 dwt. of gold contain which is Wo. $\overset{\text{car}}{\text{ƲƲI}}\ \overset{\text{gr}}{\text{ııI}}\ \frac{3}{4}$ or 351 quarter carat grains?

cr. gr. dwt. cr.gr. dwt. gr. m pt.
As 352 : 1 :: 1 : $\frac{1}{352}$ = 0 1 8 in 1dt.
ca. gr 24 20
From 352
Take 351 24 ſtand. 1 7 6 in 1oz.
20 12
1
352)480(1 mite ſtan. 16 7 6 in 1lb.
128
22 parts in 1 mite
256
256
352)2816(8 parts

Theſe operations being repeated for each quarter carat grain will form the gold tables.

Mr. Hayes's tables differ from Mr. Reynolds's in dividing the grain into 1000 decimal parts, inſtead of 740 parts in the ſilver, and 440 in the gold; thus, 1 dwt. of the ſilver, inſtead of 1 m. 3 pts. is 0,054 gr. and 1 oz. is 1,081 gr. inſtead of 1 gr. 1 m. 23 pts. and in the gold, inſtead of 1 m. 8 pts. it is 0,068 gr. for 1 dwt. 1,363 gr. inſtead of 1 gr. 6 m. 6 pts. for 1 oz. and 16,818 gr. inſtead of 16 gr. 7 m. 6 pts. for 1 lb.

CASE VII.

Given the groſs weight and the ſtandard weight, required the report or fineneſs. *Præcog*. XV.

Example 15. A ſilver ingot which weighs 176 oz. 12 dwt. has 183 oz. 18 dwt. of ſtandard, what is the fineneſs?

```
   oz.  dwt.  dwt.      oz. dwt.    dwt.
As 176   12 : 222 :: 183  18   :  230½
      20               20
     ————            ————
     3542            3678
                      222
                     ————
                     7356
                    7356
                   7356
                  ———————— dwt.              dwt
      3542)816516(230½ or Br.  viij  ob
           10811    222 ſtan.
            1856    ————
                     8½ report
```

The remainder if leſs than ½, is not put in the quotient, and if more only the half is taken notice of. *Præcog*. VI.

Example 16. An ingot of gold weighing 110 oz. 5 dwt 13 gr. has no more than 95 oz. 13 dwt. 17 gr. of ſtandard, how fine is the ingot?

```
       oz. dwt. gr.    car.   oz. dwt. gr.       ca. gr.
As 110  5  13 : 24 :: 95  13  17  :   20 0¾
       20                 20
      ----               ----
      2205               1913
        24                 24
      ----               ----
      8833              45929
     4410                  24   cr. gr.
    ------         ----------   22 0 ſtan   car gr
    52933    52933)1102296(20 3 ¼   Wo. j    0¾
                   ----------   -----
                      43636      1 0¾ report
                          4
                   ----------
              52933)174544(3  car. grains
                    -------
                      15745
                          4
                    -------
              52933 62980(1  quarter
                    -------
                      10047
```

CASE VIII.

Given the fineneſs, and the ſtandard weight, required the groſs weight. *Præcog.* XV.

Example 16. An ingot of ſilver which is reported Wo. $\overset{℥}{\text{j}}\ \overset{\text{dwt}}{\text{vij}}$ contains 345 oz. 2 dwt. of ſtandard, what is the groſs weight?

Then

```
          dwt.  oz.  dwt.    dwt.
       As 195 : 345  2  ::  222
                     20
dwt.                ----
222                 6902
 27                  222
----                ----
195                13804
                  13804
                 13804
               ----------- 20)
         195)1532244(785|7
               1672     392  17  15 groſs wt.
                1124
                 1494
                ------
                  129
                   24
                ------
          195)3096(15 grains
```

Example XVII. An ingot of gold has in it 77 oz. 13 dwt. 18 gr. of ſtandard, and is reported Br. $\overset{\text{car}}{1}$ $\overset{\text{gr}}{1}$ what does it weigh ?

```
   cr. gr.  oz. dwt.  gr.    car.gr.  oz. dwt.
   As 94  : 77  13   18  ::  88   :   72  14
                20
car gr.        ----
  88          1553
   6            24
 ----         -----
  94         37290
               88
        ----------- 24)      20)
   94)3281520(34909 ( 145| 4
         461      109      72 14 gr. wt.
          855      130
           920     100
         -----
            74       4
```

CASE

CASE IX.

Given the weight, and fineneſs of one ingot, and the weight of another, to find what weight of it will make them both ſtandard. *Præcog.* XV.

Example 18. How much muſt I melt of ſilver Br. $\overset{\text{ꝺ}N^{t}_{o}}{\underset{\mathcal{C}''j}{\therefore}}$ with 333 oz 13 dwt. which is Wo. $\overset{{}^{o}3\ N^{t}_{o}}{\underset{1\ \mathcal{C}'j}{\therefore}}$ o͞b to make the whole ſtandard ?

```
   dwt.    oz.  dwt.   dwt.            oz  dwt.
As 13  :  333   13 :: 32½             333  13
           20                               2½
         ─────                        ─────────
          6673      13)32½(2½         667   6
            32½                       166  16½
         ─────                        ─────────
         13346                        834   2½
        20019
          3336½
       ────────
    13)216872½
    2|0)1668|2½
        834 2 12
```

The work of theſe queſtions will be much ſhortened when the fineneſs of the given ingot can be divided by that of the required one, as in the preſent caſe 32½ is 2½ times 13, and we have worked it both ways, as likewiſe the next example.

Example 19. What quantity of gold reported Br. $\underset{\text{i}}{\overset{\text{car}}{\cdot}}\ \underset{\text{ij}}{\overset{\text{gr}}{\smile}}$ will ſtandard 549 oz. 1 dwt. 11 gr. report d Wo $\underset{\text{iij}}{\overset{\text{car}}{\cdots}}\ \underset{\text{i}}{\overset{\text{gr}}{\smile}}$

cr gr. oz. dwt. gr. cr. gr. oz. dwt. gr.
As 6 : 549 1 11 :: 13 Or thus 549 1 11
13 $2\frac{1}{6}$

6)7137 18 23 6)13($2\frac{1}{6}$ 1098 2 22
1189 13 $3\frac{5}{6}$ 91 10 $5\frac{5}{6}$

1189 13 $3\frac{5}{6}$

Example 20. A gold ingot reported Wo. $\underset{\text{iij}}{\overset{\text{car}}{\cdots}}\ \underset{\text{ij}}{\overset{\text{gr}}{\smile}}$ ō8 requires 665 oz. 17 dwt. 21 gr. of fine gold to ſtandard it, what does it contain ?

car. cr. gr oz. dwt. gr.
2 or 8 r port fine gold 665 17 21
3 $2\frac{1}{2}$ = $14\frac{1}{2}$ that of report 8
2

or 29 half ca. gr. 5327 3 0
2

oz. dwt gr.
29)10654 6 0(367 7 19
195
214

11
20

29(226(7 dwt.
23
24

29 552(19 gr.

This is a very uſeful caſe, and that by which the tables are formed, for ſtandarding ingots of any fineneſs that are worſe, with others that are better than ſtandard.

CASE X.

Given the weight of two ingots, which being melted together are ſtandard, and the fineneſs of one required that of the other. *Præcog.* XVI.

Example 21. Two ſilver ingots weighing 287 oz. 3 dwt. and 898 oz. 19 are melted together and found to be ſtandard, the firſt was Wo. ℥ ij dwt viij how fine was the other ?

```
  oz. dwt.   oz. dwt.    oz.  dwt.
  898  19  :  2   8 :: 287   3
       20    20           20
  ———————    ———        ———
  17979      48         5743
                          48
                       —————
                       45944
                      22972
                      ——————
            17979)275664(15 or Br. dwt xv
                    95874
                    ——————
for what remains     5979  ſee examp. 15.
```

Example 22. An ingot of 665 oz. 17 dwt. 21 gr. of fine gold is melted with another ingot of 367 oz. 7 dwt. 19 gr. which made it ſtandard, how fine was the laſt ingot ?

```
       oz  dwt. gr.    cr.      oz.  dwt. gr.
    As 367   7  19  :   2  :: 665    17  21
        20              4     20
       ----            --   ------
      7347              8   13317
        24                     24
      -----                 ------
     29407                  53289
    14694                  26634
    ------                 ------
    176347                 319629
                                8
                     ----------- ca. gr.
           176347)2557032(14½
                   793562  8 alloy in ſtan.
           remains  88174  —           cr  gr
                           6½ or Wo.  j  ij  o8
```

Case XI.

Wherein is given the fineneſſes of two ingots, which when melted together are ſtandard, and the weight of one of them, to find that of the other. *Præcog.* XV.

Example 23. An ingot of ſilver weighing 79 oz. 8 dwt. Br. $\overset{\text{dwt}}{\ddot{\text{vij}}}$, and another reported Wo. $\overset{\text{dwt}}{\dddot{\text{iij}}}$ ob being melted together are ſtandard, what does the laſt ingot weigh?

dwt. oz. dwt. dwt.
As $3\frac{1}{2}$: 79 8 :: 7
2 7
7 555 16
2
7)1111 12
158 16

Or thus $3\frac{1}{2}$)7(2
oz. dwt.
79 8
2
158 16

Example 24. An ingot of gold reported Wo. $\overset{\text{ca}}{\dot{\text{i}}}\ \overset{\text{gr}}{\dot{\text{i}}}$ requires 126 oz. 6 dwt. 18 gr. of gold Br. $\overset{\text{car}}{\dot{\text{i}}}\ \overset{\text{gr}}{\ddot{\text{iij}}}$ to ſtandard it, what is the weight of the ingot?

ca. oz. dwt gr. cr.
As $1\frac{1}{4}$: 126 6 18 :: $1\frac{3}{4}$
4 7 4
5 5)884 7 6 7
176 17 $10\frac{4}{5}$

Or thus 5)7($1\frac{2}{5}$
oz dwt gr.
126 6 18
$1\frac{2}{5}$
126 6 18
25 5 $8\frac{2}{5}$
25 5 $8\frac{2}{5}$
176 17 $10\frac{4}{5}$

CASE

CASE XII.

Given the weights of two or more ingots which are melted together, and the fineneſs of one of them, required the quantity of ſtandard contained in the maſs. *Præcog.* XVI.

Example 25. An ingot of ſilver weighing 97 oz. 15 dwt. Br. $\overset{\text{dwt.}}{\underset{9}{\cdot}}$ is melted with another which weighs 40 oz. Wo. $\overset{\text{dwt.}}{\underset{17}{\cdot\cdot}}$ how much ſtandard is there in the maſs?

```
oz. dwt.       dwt.          oz. dwt.  oz.

97  15         222           97  15    40
40   0           9           20        20
-------        ----          ----      ----
137 15         231         1955        800
 20            ----          231       205
-------        222           ----      ----
2755            17          1955      4000
               ----        5865    1600
               205        3910     --------
                          -------   164000
                          451605    451605
                                  ----------- 219
                              222)615605(277|3
                                  1716    138 13ſtan.
                                   1620
                                     665
```

Example 25. A gold ingot of 28 oz. 18 dwt. Wo. $\overset{car}{\text{ij}}\ \overset{gr}{\text{iij}}$ is melted with another weighing 48 oz. 8 dwt. Br. $\overset{car}{\text{i}}\ \overset{gr}{\text{i}}\frac{1}{4}$ what ſtandard does the maſs contain ?

```
ca.gr.         oz. dwt.          oz.  dwt.

88              48   8            28  18
 5¼             20                20
----           -----             -----
93¼            968               578
---             93¼               77
88             -----             -----
11             2904              4046
---           8712              4046
77              242             ---------
               -----          to 44506
               90266          add 90266
                              ---- ----  2|0)
                              88)134772(153|1
                                  467       76 11 ½ ſtand.
                                   277
                                    132
                                     44
```

If the ingots are both better or both worſe, the queſtion is beſt worked by the number of fine parts in each ; but if ſome are better and others worſe, it is eaſier done by the fine parts in the report as follows.

Example 24.

oz.
40
20
800
17
13600

oz. dwt.
97 15
40 0
137 15
18
138 13 ſtandard

oz. dwt.
97 15
20
1955
9
17595
13600
dwt.
222) 3995(18
1775

Example. 25

oz. dwt.
48 8
20
968
5$\frac{1}{4}$
4840
242
5082

oz. dwt.
28 18
20
578
11
from 6358
take 5082
88)1276(14$\frac{1}{2}$
396
44

oz. dwt.
48 8
28 18
from 77 6
take 14$\frac{1}{2}$
76 11$\frac{1}{2}$ ſtand.

Or thus without reduction.

oz. dwt.
97 15
9
from 879 15
take 680 0
199 15
20
222)3995(18 dwt.
1775

oz
40
17
680

oz. dwt.
28 18
11
317 18
254 2
63 16
20
88)1726(14$\frac{1}{2}$
396
44

oz. dwt.
48 8
5$\frac{1}{4}$
242 0
12 2
254 2

CASE XIII.

Given the weights, or fineneſſes, of two or more ingots which are melted together, required the fineneſs of the maſs. *Præcog.* XVI.

Example 26. Two ſilver ingots are melted together, one weighs 111 oz. 12 dwt. Br. $\overset{\text{ↄ/ɴº}}{\text{Ꞇi}}$ the other 74 oz. 8 dwt. Wo. $\overset{\text{ↄ/ɴº}}{\text{ꞆIꞆ}}$ how fine is the maſs ?

oz. dwt.	oz. dwt.	oz. dwt.
74 8	111 12	111 12
20	74 8	20
1488	186 0	2232
203	20	233
4464	3720	6696
2976		6696
		4464
302064		

to 520056
add 302064 dwt. ↄ/ɴº
222
372|0)82212|0(221 or Wo. i
781
372
1

Or thus without reduction.

oz. dwt.	oz. dwt.
111 12	74 8
233	203
334 16	223 4
3348 0	14880 0
22320 0	
26002 16	15103 4
15103 4	

186)41106 0(221
390
186

Example 27. Two ingots of gold are melted together, the firſt weighs 169 oz. 16 dwt. Wo. $\overset{car}{ij}$ $\overset{gr}{1}$ the ſecond 76 oz. 16 dwt. Br. $\overset{cr}{j}$ $\overset{gr}{ij}$ $\frac{1}{4}$ what is the report of the maſs ?

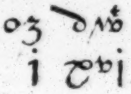
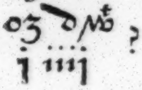
```
 oz. dwt.       oz. dwt.        oz.  dwt.
  76  16        169  16         169  16
  20             76  16          20
 ------         -------         ------
 1536           246  12         3396
   94¼           20               79
 ------         ----            ------
  6144          4932            30564
 13824                          23772
   384                          ------
 -------                  add  268284
 144768                   to   144768
                               ------
                                          car gr
                      4932)413052(83¼ Wo. j   0  ¼
                           18492 88
                            3696 ---
                                  4¼
```

If the ingots are both better or both worſe it is beſt to work them by the total number of fine parts as above, but if one is better and the other worſe, it is eaſieſt worked by the fine parts in the report as Examp. 24 and 25 in the laſt caſe.

```
 oz. dwt.      car. dwt.     oz.  dwt.      oz. dwt.
  74  8        111  12        76  16        169  16
  20            20            20             20
 ----          -----         -----          -----
 1488          2232          1536           3396
   19            11             6¼              9
 ------        ------        ------         ------
 28272take24552               9216          30564
      from 28272               384           9600
                             -----
           ------             9600          ------     tr gr
 3720)  3720(1                        4932)20964(4¼Wo. j 0¼
  or Wo. j [illegible]                      1236
```

CASE XIV.

Given the groſs weight of an ingot of parting, with the report of the fine gold and fine ſilver in the lb. wt. required the quantity of each in the ingot.

Example 28. How much fine gold and fine ſilver is contained in an ingot of parting, weighing 158 oz. 10 dwt. reported Wo.  fine gold  ?

```
        oz. dwt.                  dwt.
       158  10            from 3170 groſs wt.
        20                 take  317 fine gold
      ----                      ---
      3170             remains 2853 ſilver and alloy
        24                       186
     -----                     -----
     12680                     17118
     6340                      22824
     ------ -- 29              2853
2|40)7608|0(31|7 fine gold    ------- 2|0
     40     15 17        24|0)53065|8(221|1 fine ſilv.
     168                       50       110 11
                                 26
                                  25
                                   18 parts of a dwt.
```

CASE

CASE XV.

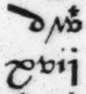
Given the groſs weight of an ingot, the report of the gold, and the quantity of fine ſilver in the ingot, required the report of the ſilver, and the quantity of fine gold.

Example 30. An ingot of parting weighs 105 oz. 12 dwt. has 95 oz. 11 dwt. of fine ſilver, and the gold is reported $\underset{\text{Cij}}{\text{Wo}^{t}}$ ꝭ in the lb. wt. how much fine gold is there in the ingot, and what is the report of the ſilver?

```
      oz. dwt.                        oz. dwt.
      105  12                         95  11
       20                             20
      ---                             ---
     2112                            1911
       25 gold report                 240
      ---                           -----
    10560                            7644
    4224                            3822
    --------- 2112 gr.wt.           -------         Wo^t
48|0)5280|0(  110fi.gold  2002)45864|0(229  Br.vij
     48        ----              5824   222
           2002 of ſilv. & al.   1820   ---
                                  182     7 report
```

CASE XVI.

Given the groſs weight, the weight of the fine gold, and the report of the ſilver, required the quantity of fine ſilver, and report of the gold.

Example 31. An ingot of parting weighs 156 oz. 16 dwt. the ſilver is reported Wo.  it has 9 oz. 16 dwt. of fine gold in it, what is the report of the gold, and the quantity of fine ſilver in the ingot ?

```
          oz. dwt.                  oz.  dwt.
          9   16                    156 16
          20                          20
          ————                      ————
          196                       3136
          240                        196 fine gold
        ————                      —————
        7840                        2940
       3920                          205 ſil.  report
     ———————— dwt.                ——————
  3136)47040(15 gold report       14700
        15680                    5880
                                ——————————— 20)
                          24|0)60270|0( 251|1
                               122        125 11 1/4
                                 27       [fine ſilver
                                  30
                                   60
```

CASE XVII.

Given the groſs weight of an ingot of parting, and the weights of fine gold, and fine ſilver, to find the reports.

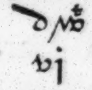
Example 32. An ingot of parting weighs 252 oz. 15 dwt. has 211 oz. 7 dwt. of fine ſilver, and 16 oz. 17 dwt. of fine gold, what are the reports?

```
 oz. dwt.       oz. dwt.                   oz. dwt.

 252 15         211 7                       16 17
  20             20                         20
 ——             ——                         ——
5055 gr.wt.    4227                        337
 337 fine gold  240                        240
 ——            ———                        ————
4718          169080                     13480
              84540                      6740
              ———— 222 ſtand.           ———— dwt.
    4718)1014480(215Wovij  5055)80880(16 gold
           7088    ——            30330 [report
           23700     7 ſilver report
            110
```

CASE XVIII.

Given the report of the ſilver, the quantity of fine ſilver, and the quantity of fine gold, required the gold report, and groſs weight.

Example 31. An ingot of parting has the ſilver reported Br.  it contains 46 oz. 11 dwt. of fine ſilver, and 5 oz. 10 dwt. of fine gold, what is the groſs weight, and the gold report?

oz. dwt. — oz. dwt.
46 11 — 5 10
20 — 20
931 — 110
240 — 240
37240 — 440
18620 — 220
[and alloy — dwt.
228)223440(980 fine ſilver — 109|0)2640|0(24 gold
1824 110 fine gold — 460 [report
remains 24 pts. of a dt.
109|0 — 24
54 10 groſs wt.
96
48
109)576(5 grains,
31

N. B. They never report leſs than 6 grains

CASE XIX.

Given the gold report, the quantity of fine gold, and the quantity of fine ſilver, to find the report of the ſilver, and the groſs weight.

Example 32. A parting ingot contains 12 oz. 12 dwt. of fine ſilver, and the gold report is [illegible] in the lb. what is the weight of the ingot, and the report of the ſilver ?

```
     oz. dwt.                        oz. dwt.
     12  12                         139  18
     20                              20
     ———                            ———
     252                            2798
     240                             240
    ————                           —————
   10080                          111920
   5040                           55960   dwt.
   ————                          ——————   222 ſta. [illegible]
18)60480(3360groſswt. 3108)671520(216 or Wo.vi
   64     252 fine gold       4992     —
   108    ———                 18840    6 report
        3108 ſil. & alloy      192
```

CASE XX.

Given the groſs weight, and reports, of two or more ingots of parting, to find the quantity of fine gold and fine ſilver in the maſs ?

Example 34. An ingot of parting weighing 97 oz. 4 dwt. reported fine gold $\overset{℥}{\text{i}}$ $\overset{\text{dwt}}{\text{x}}$ Br. $\overset{\text{dwt}}{\text{vij}}$ is melted with another weighing 72 oz. 16 dwt. the ſilver reported Wo. $\overset{℥}{\text{i}}$ $\overset{\text{dwt}}{\text{iiij}}$ fine gold $\overset{\text{dwt}}{\text{xv}}$ what is the quantity of fine gold, and fine ſilver in the maſs and the report?

```
dwt.                   oz. dwt.
222                    97  4 groſs wt.
  7                    20
---                    ----
229                  1944  dwt.
        gold report    30  1944
           24|0)5832|0 ( 243
                   103  1701 ſilver and alloy
                    72   229
                        -----
                        15309
                        3402
                       3402      dwt.
                 24|0)38952|9(1623 fine ſilver

         oz.  dwt.
         72   16  groſs wt.
         20
       -----
        1456
gol.report 15  dwt.
        ----- 1456
 24|0)2184|0(  91
        24    ----
             1365 ſilver and alloy
              198
            -----
            10920
           12285
           1365
           ------
     24|0)27027|0(1126 fine ſilver
```

dwt.
243 fi. gold in the 97oz. 4dwt.
91 fi. gold in the 72oz. 16dwt.

334 quantity fine gold in maſs
240

groſs wt. 1944 13360
ditto 1456 6680

dwt.gr. (in the maſs
total gr. wt. 34|00)801|60)23 12 report of the gold
121 j oʒ. iij dwt ſs in lb.
1960
4

34|00)7840(2 quarter dwts. or 12 gr.

dwt.
1126 fine ſilver
1623 fine ſilver

2749 fine ſilver in the maſs
240

dwt.
ſilver & alloy 1365 109960
ditto - 1701 54980

dwt.
total - 3066) 659760(215
222

report of the ſilver in the maſs 7 or Wo. vij dwt

		oz.	dwt.
Quantity of	fine gold -	16	14
	fine ſilver -	137	9

		oʒ	dwt
*Report	fine gold -	j	iij ſs
	ſilver Wo. -	-	vij

---

* The manner of valuing theſe is found in the next ſection, and the refiner deducts 4d. per oz. for the parting of it.

The

Inſtead of reporting the quantity of fine ſilver contained in a parting aſſay, by the relation it has to ſtandard, or how much it is better or worſe than ſtandard, it is ſometimes reported as the gold by its quantity in the lb. weight.

Example 33. What quantity of fine gold and fine ſilver is contained in an ingot of parting weighing 158 oz. 10 dwt. reported fine gold $\overset{\text{oz}}{\text{j}}\;\overset{\text{dwt}}{\text{iiij}}$ fine ſilver $\overset{\text{oz}}{\text{viij}}\;\overset{\text{dwt}}{\text{xi}}$?

```
     oz. dwt.                  oz. dwt.
     158  10                   158  10
      20                        20
    -----                     -----
     3170                      3170
       24 gold report           171 ſilver report
    -----                     -----
    12680                      3170
    6340                      53890
    ------- (20              -------- (20
24|0)7608|0(31|7   24|0)542070(225|8⅝ fine ſilver
       15 oz.17dwt.              112oz.18dt.15gr.
```

How this ſhould have been reported in the uſual way, the following work ſhews.

```
     dwt.               dwt.  dwt.     dwt.  dwt.
from 240  Then as  216 : 240  ::  171 : 190
take  24                171
     ----              ----
     216 fi. fil. & alloy   240
                      1680    dwt.
                       240    222 ſtand.
                  216)41040(190 take
                            32 or Wo.
                         j oz xij dwt
```

Which being caſt up as in Examp. 28. will give the ſame anſwer as above, or 112 oz. 18 dwt. 15 gr. of fine ſilver in the ingot.

The Doctrine of Value.

CASE XXI.

Given the value of an ounce of ſtandard, or that of $\overset{oz.}{xi}.\ \overset{dwt}{ij}$ in ſilver and $\overset{car}{xxij}$ in gold to find that of an ounce of any other fineneſs. *Præ.* XIX.

Example 30. When ſtandard ſilver is 5 s. 2 d. per oz. what is an ounce of fine ſilver worth, or that which is Br. $\overset{dwt}{xviij}$?

dwt. s. d. dwt. — d.

As 222 : 5 2 :: 240 Or thus 37 : 62 :: 40

12 — 40

62 — $37)2480(67\frac{1}{37}$

240 — 260

2480 — Or as 37 : 62 :: 3

1240 — 3

d.

$222(14880(67\frac{1}{37}$ — $37)186(5\frac{1}{37}$ added

5 s. 7 d. per oz. — 1 62 to

$67\frac{1}{37}$

In the ſecond manner of working this queſtion, 222 and 240, being both meaſured by 6, quote 37, and 40, which are their loweſt terms; the third method is by finding the value of the report, and either adding it to, or ſubſtracting it from, the price of ſtandard.

The value of fine ſilver juſt now found, is what it has had in our coin for 164 years paſt, but if it is required when ſtandard is at 5 s. 6d $\frac{3}{5}$, it will be juſt 6 s. for as 37 : 40 :: 5 s 6 d $\frac{3}{5}$: 6 s.

Example 51. What is the value of an ounce of ſilver reported Wo. $\overset{oz}{ij}$ $\overset{dwt}{xiij}$ when ſtandard is 5s. 7d. per ounce?

	dwt.		dwt.	s. d.		dwt.
from	222	As	222	: 5 7	: :	169
take	53			12		67
	169			67		1183
						1014

12)
222)11323(51
223 4s 3d per oz.
1

The uſual method of finding the value of a ſilver aſſay from the report, is by reckoning the 222 parts or dwts. of which ſtandard ſilver conſiſts, at 5 ſhillings and ſix-pence and $\frac{3}{5}$ of a penny, which is nearly the medium price of ſtandard ſilver per oz. that (being generally between 5s. 3d. and 5s. 9d. per oz.) at which rate each 2 $\frac{1}{2}$ dwt. is worth 3 farthings, 5 dwt. is 1d$\frac{1}{2}$, 7$\frac{1}{2}$ dwt. is 2d$\frac{1}{4}$, 10 dwt. is 3d, 12$\frac{1}{2}$ dwt. is 3d$\frac{3}{4}$, 15 dwt. is 4d$\frac{1}{2}$, 17$\frac{1}{2}$ dwt. is 5d$\frac{1}{4}$, and 20 dwt. or 1 oz. is worth 6 pence, and ſo on for 2, 3, 4, 5, or more ounces. All the other intermediate reports, but thoſe above, conſiſt of fractional parts, more or leſs than a farthing.

In the uſual rating of ſilver by the ounce, one farthing is the loweſt value conſidered, the fractions leſs than that, not being taken notice of; therefore in the following table, we have taken the neareſt value to thoſe of a farthing; whether more or leſs, as where the exceſs is more than $\frac{1}{2}$ a farthing; we have reckoned a farthing for it, and where it is leſs than $\frac{1}{2}$ a farthing, it is not reckoned at all. Thus in the following table, N° 1, 6, 11, 16, 21, 26, 31, and 36, are of the 1ſt ſort, which for $\frac{3}{5}$ of a farthing have one farthing put in the table; and N° 3, 8, 13, 18, 23, 28, 33, and 38, the ſame inſtead of $\frac{4}{5}$ of a farthing; on the contrary, N° 2, 7, 12, 17, 22, 27, 32 and 37, have beſides the farthing in the table $\frac{2}{5}$ of another not taken notice of; and the caſe is the ſame with N° 4, 9, 14, 19, 24, 29, 34 and 39, which have $\frac{1}{5}$ of a farthing unnoticed in the table.

But the true value of theſe intermediate reports, is contained in 1, 3, 7, 9, 11, 13, 17, and 19 twentieths, in 1, 3, 7, and 9 tenths, and 1, 2, 3 and 4 fifths of a penny, and therefore the decimal notation is much the propereſt to be uſed here by thoſe who are acquainted with it.

A TABLE of the value of each $\frac{1}{2}$ dwt. of betterneſs, or worſeneſs, in a ſilver aſſay from 1 halfpenny weight to 40, or to 1 ounce.

No	dwt.	d.	No	dwt.	d.	No	dwt.	d.
1	ob	$\frac{1}{4}$	14	vij	2	27	xiij ob	4
2	j	$\frac{1}{4}$	15	vij ob	$2\frac{1}{4}$	28	xiiij	$4\frac{1}{4}$
3	j ob	$\frac{1}{2}$	16	viij	$2\frac{1}{2}$	29	xiiij ob	$4\frac{1}{4}$
4	ij	$\frac{1}{2}$	17	viij ob	$2\frac{1}{2}$	30	xv	$4\frac{1}{2}$
5	ij ob	$\frac{3}{4}$	18	ix	$2\frac{3}{4}$	31	xv ob	$4\frac{3}{4}$
6	iij	1	19	ix ob	$2\frac{3}{4}$	32	xvj	$4\frac{3}{4}$
7	iij ob	1	20	x	3	33	xvj ob	5
8	iiij	$1\frac{1}{4}$	21	x ob	$3\frac{1}{4}$	34	xvij	5
9	iiij ob	$1\frac{1}{4}$	22	xj	$3\frac{1}{4}$	35	xvij ob	$5\frac{1}{4}$
10	v	$1\frac{1}{2}$	23	xj ob	$3\frac{1}{2}$	36	xviij	$5\frac{1}{2}$
11	v ob	$1\frac{3}{4}$	24	xij	$3\frac{1}{2}$	37	xviij ob	$5\frac{1}{2}$
12	vj	$1\frac{3}{4}$	25	xij ob	$3\frac{3}{4}$	38	xix	$5\frac{3}{4}$
13	vi ob	2	26	xiij	4	39	xix ob	$5\frac{3}{4}$
						40	j oz	6

If the values are calculated to $\frac{1}{2}$ a farthing, or one 8th of a penny per oz. then the following reports will have the following values, inſtead of thoſe above, but the others will ſtill ſtand as they do there.

1	ob	$\frac{1}{8}$	16	viij	$2\frac{3}{8}$	29	xiiij ob	$4\frac{3}{8}$
4	ij	$\frac{5}{8}$	19	ix ob	$2\frac{7}{8}$	31	xv ob	$4\frac{5}{8}$
6	iij	$\frac{7}{8}$	21	x ob	$3\frac{1}{8}$	34	xvij	$5\frac{1}{8}$
7	iij ob	$1\frac{3}{8}$	24	xij	$3\frac{5}{8}$	36	xviij	$5\frac{3}{8}$
11	v ob	$1\frac{5}{8}$	26	xiij	$3\frac{7}{8}$	39	xix ob	$5\frac{7}{8}$
14	vij	$2\frac{7}{8}$						

Theſe values being added to, or ſubſtracted from, the price of one ounce of ſtandard will give the value of one ounce of any of theſe fineneſſes; thus the value of an ounce of ſilver Wo. $\underset{\text{ij}}{\text{oz}}\ \underset{\text{xiij}}{\text{dwt}}$ as in the laſt Example, is found by the table to be 4 s. 3 d. as before.

	s.	d.	s.	d.
from the price of 1 oz. of ſtandard			5	7
take for the 2 oz. in the report	1	0		
and for the 13 dwt. in ditto -	-	4		
			1	4
remains the value of 1 oz. Wo. $\underset{\text{ij}}{\text{oz}}\ \underset{\text{xiij}}{\text{dwt}}$			4	3

The above tables give the juſt value, when ſtandard ſilver is 5 s. 6 d. $\frac{3}{5}$ per oz. but deviates from it as the price is, more or leſs than that, but this difference does not amount to a farthing per oz. nor make any difference in the tabular values between 5 s. 3 d $\frac{1}{2}$, and 5s. 9d$\frac{1}{2}$, (within which rates ſtandard ſilver uſually runs) but when it is at the 1ſt price, each oz. inſtead of 6 d, is but 5d $\frac{3}{4}$, and at the laſt price it becomes 6 d. $\frac{1}{4}$.

Example 32. What is the value of an ounce of fine gold, or that which is Br. $\overset{car}{\ddot{\text{ı}}\text{j}}$ when ſtandard gold is worth 3 l. 13 s. per ounce.

```
   car.  l  s.    ca.                    l  s
As 22 :  3 18 :: 24   Or as 11 : 12 :: 3 18
           20                              12
         ----                          ------
           78                      11)46 16
           24                           4  5 1/11
         -----
          312
         156
       -------20)
  22)1872(8|5 1/11
        112 4l. 5s. fine gold per oz.
          2
```

If the price is 3 l 17 s 11 d

```
Then as 11 : 12 :: 3  17 11
                         12
                  ---------
                11)46 15 0
                    4  5 0 exactly
```

N. B. Our money is coined at 3 l 17 s 10 d ½ per ounce.

Fxample

Example 33. What is the value of an ounce of gold, reported Wo. $\overset{ca}{1}\ \overset{gr}{1}\frac{1}{4}$ when ſtandard is 3 l 18 s per oz?

```
 cr.  ca. gr.     cr. gr.  l.  s.    cr. gr.
 22    1  3¼   As 352  :  3  18  ::  323
  4    4                     20        78
 ---  --                    ---     -----
 88    7                     78      2584
  4    4                            2261
 ---  --                            ------ 20)
352   29                     352)25194(71
 29                                554  3l 11s 6d⅞
----                               202
323                                 12
                                  -----
                              352)2424(6 pence
                                   312
                                     4
                                  -----
                              352)1248(3 far-
                                   192   things
```

The readieſt way of finding the value of an ounce of gold of any fineneſs, from the aſſay, is to reckon each carat at 3 s 6 d ½, each carat grain at 10 d ⅝, and each ¼ of a carat grain at 2 d ⅝, which is their value, when ſtandard is at 3 l 17 s 11 d per oz. and the following table is calculated at that price.

A TABLE of the value of each quarter carat grain, between 1 and 16, or to one carat, in a gold aſſay, when ſtandard gold is 3 l 17 s 11 d per oz.

cr. gr	s.	d.	cr. gr.	s.	d.	c. g.	s.	d.	ca. gr.	s.	d.
¼	0	2⅝	j ¼	1	1¼	ij ¼	1	11⅞	iij ¼	2	10½
½	0	5¼	j ½	1	3⅞	ij ½	2	2½	iij ½	3	1¼
¾	0	8	j ¾	1	6	ij ¾	2	5¼	iij ¾	3	3⅞
j ca. gr.	0	10⅝	ij	1	9¼	iij	2	7⅞	j carat	3	6½

But the uſual way with the refiners, is to reckon each carat in an aſſay at 4 s. each carat grain at 1 s. and each quarter carat grain at 3 d; that is, eſtimating ſtandard at 4 l 8 s in the aſſay, and 3 l 18 s in the ingot.

The queſtions in the laſt examples are anſwered by the table as follows:

	l.	s.	d.	
To	3	17	11	value of ſtandard
Add	0	7	1	value of 2 carats
Value of	4	5	0	fine gold per oz.

	l.	s.	d.	
From	3	18	0	value of ſtandard
Take	0	6	5	value of 1 car. 2 gr. ¼
Value of	3	11	7	gold Wo. 1 car. 2 ¼ gr.

CASE XXIII.

Given the fineneſſes of two ſorts, of gold or ſilver, and the value of one of them to find that of the other. *Præcog*. XX.

Example 33. An ounce of ſilver Wo. $\overset{oz}{1}\ \overset{dwt}{15}$ being worth 4 s. 8 d. what is the price of ſtandard?

dwt.		dwt.	s. d.	dwt.
222	As	187 :	4 8 ::	222
35			12	56
187			56	1332
				1110
				12)
			187)12432(66	
				1212 5s. 6d. ½
				90

By the Table

	s.	d.	
Add	0	10 ½	for 1 oz. 15 dwt. worſe
To	4	8	the given value
	5	6 ½	Stand. per oz.

Example 34. An ounce of gold Br. $\overset{\text{car}}{\dot{\text{j}}}\ \overset{\text{gr}}{\ddot{\text{iij}}}\ \frac{1}{4}$ is worth 4 l. 4 s. 4 d. at what price is ſtandard per ounce ?

car. cr. gr. ¼cr. gr. l. s. d. ¼ca.gr.

22 1 $3\frac{1}{4}$ As 381 : 4 4 4 :: 352

4 4 20

88 7 84

4 4 12

352 29 1012

29 352

381 2024

5060

3036

12)

381)356224(934 $\frac{370}{381}$

1332 7|7 11 nearly

1894 3^{l}17s11d ſtan. per oz.

370

By the Table

	l.	s.	d.	
From	4	4	4	the given price
Take	0	6	5	for 1 car. $3\frac{1}{4}$ gr. Wo.
	3	17	11	Stand. per oz.

CASE XXIV.

Given the value per oz. of two ſorts of gold or ſilver, and the fineneſs of one of them, to find that of the other. *Præcog*. XX.

Example 35. What is the value of an ounce of new ſterling * ſilver, or that which is Br. dwt viij when ſtandard is 5 s. 7 d. per oz.

```
dwt.          dwt.         s. d.       dwt.
 222     As   222 : ::   5  7 :: 230
   8                       12         67
 ---                      ---        ---
 230                       67       1610
                                    1380
                                    ---- 12)
                          222)15410(69 3/8
                                2090 5s. 9d. 3/8 pr oz
                        remains   92
                                   8
                                 ---
                            222)736(3-8ths of a
                                 70             [penny
```

By the Table

	s.	d.	
To	5	7	ſtandard per oz.
Add	0	$2\frac{3}{8}$	for the 8 dwt. better
	5	$9\frac{3}{8}$	value of 1 oz. of new ſterling

---

* By an act of 8 and 9 Wm. III. no other ſilver but of this fineneſs was to be made into plate, after 25 Mar. 1697, which continued in force till 1 June, 1720, when the obligation was taken of, by an act of 6 Geo. I. it is all marked with a Lyon's head eraſed, and a Britannia.

Example 36. What is the value of an ounce of gold Wo. $\overset{tr}{\underset{iij}{\cdots}}$ when ſtandard is 3 l. 18 s. per ounce?

car. ca. l. s. car.

22 As 22 : 3 18 :: 19
3 20 78

19 78 152
133

20)
22)1482(6|7
162 3l. 7s. 4d.$\frac{1}{8}$
remains 8
12

22)96(4 pence
8

By the Table

	l.	s.	d.	
From	3	18	0	price of ſtandard
take	0	10	7½	for 3 carats worſe
	3	7	4½	value per ounce required

CASE XXV.

Given the weight and fineneſs of an ingot, with the price of ſtandard per oz. to find the value of that ingot. *Præcog.* XXI.

Example 37. What is the value of an ingot of ſilver, weighing 120 oz. 18 dwt. reported Wo. $\underset{\text{j}}{℥}\ \underset{\text{iij}}{\text{dwt}}$ ob, ſtandard ſilver being 5 s. 6 d. per ounce?

```
 dwt.             dwt.    oz. dwt.     dwt.

 222          As 222  :  120  18  ::  198½
   23½                    20
 ----                    ----
 198½                    2418
                          198½
                        ------
                         19344
                        21762
                        2418
                          1209
                       -------- 20)
                 222)479973(216|2
                        359   108 oz. 2 dwt. ſtan.
                        1377           [in the ingot
                          453
                            9
```

Then

oz. s. d. oz. dwt. l. s. d.
Then as 1 : 5 6 :: 108 2 : 29 14 6$\frac{3}{5}$
20 12 20
20 66 2162
66
19972
12272
2|0)14269|2
12) 7134 $\frac{3}{5}$
2|0) 59|4s 6d
Value 29l 14s 6$\frac{3}{5}$d of the ingot

Beſides the above method of performing this queſtion, by which we have firſt found the quantity of ſtandard in the ingot, (as in Example 11. CASE VI.) and then caſt it up at the ſtandard price; there is another way of anſwering it.

That is by finding the value of one ounce of the ingot (as in Examp. 31) which we have done 3 different ways; 1ſt, by the fine parts in the ingot; 2dly, by thoſe in the report, and then ſubſtracted it from that of ſtandard; laſtly, it is done by the table, which value being multiplyed into the groſs weight, will give the value of the ingot the ſame as before.

1ſt.

dwt. d. dwt.

1ſt. As 222 : 56 :: 198 $\frac{1}{2}$
66

1191
1191
12)
222)13101(59 $\frac{1}{74}$
2001 4s. 11d. $\frac{1}{74}$
3

Or the price per oz. may be found thus:

dwt. d. dwt.

2d. As 222 : 66 :: 23 $\frac{1}{2}$
23$\frac{1}{2}$

198
132
33 d.
66
222)1551(7 nearly
1551 —
12)59 [per oz.
4s. 11d. value of the ingot

Or thus by the Table

		s.	d.	
3d.	From	5	6	price of ſtandard
	Take	0	7	for 23 $\frac{1}{2}$ dwt. worſe
	Value	4	11	of the ingot per oz.

Then for the value of the ingot, it will be

```
      oz.     s. d.        oz. dwt.    l.  s.  d.
As    1   :   4 11  ::  120  18   :  29  14  6 1/5
     20      12          20
     ---     --         ----
     20      59          2418
                           59
                         -----
                         21762
                        12090
                        ------
                  2|0)14266|2
                   12) 7133
                 2|0)   59|4  5
                        29l 14s 5d  value of ingot
```

We have reſolved the above queſtion in the ſame manner as moſt of the others; that is, by reduction and the rule of three; but we will now ſhew how it may be done by practice, as being the readieſt in buſineſs, which is perfom'd by taking the aliquot parts either of the value or the weight, and we have worked it both ways, and likewiſe both by the ſtandard weight and the groſs weight.

```
          oz. dwt.                s.  d.

          108  2        at        5   6
            5                         9
          ----                  ---------
  5 s.   |540                 2   9   6
  6 d.   | 54                        12
  2 dwt. |  0    6 1/2        -----------
         -----------          29  14   0 value of 108 oz.
     2|0)59|4    6 1/2                 6 3/5 ditto of 2 dwt.
       29l. 14s. 6d 1/2       -----------
                 value        29  14   6 3/5 of the ingot
```

A

oz. dwt. s. d.
120 18 at 4 11
4 11

s. d.
4 | 480 0 2 14 1
11 | 110 0 11
2 dwr. | 0 $5\frac{3}{4}$
16 dwt. | 3 $11\frac{1}{4}$ from 29 14 11 for 121 oz.
$\frac{1}{74}$ | 0 $1\frac{1}{2}$ take 6 for 2 dwt.

59|4 $6\frac{1}{2}$ to 29 14 5
29l 14s 6d add $1\frac{1}{2}$ for $\frac{1}{74}$

29 14 $6\frac{1}{2}$

Beſides the firſt method of reſolving this queſtion by two ſtatings, it may be reſolved at one; that is, as the oz. of ſtandard multiplied by its fineneſs is to its value, ſo is the given weight multiplied by the given fineneſs to the required value; or, as 480 gr. × 222 dwt. : 5s. $6\frac{1}{2}$d. :: 120 oz. 18 dwt. × $198\frac{1}{2}$: 29l. 14s. $6\frac{1}{2}$d.

Example 38. What is the value of 84 ounces of gold Br. $\overset{car}{1}$ $\overset{gr}{1}$ when ſtandard gold is 3l. 18s. per ounce?

oz. dwt. gr.
84 16 12
$23\frac{1}{4}$

254 9 12
1696 10 0
42 8 6

2)1997 7 18
11) 9-6 13 21
90 12 4 [of ſtand.]

29)
13|0
6 10

oz. dwt. gr.
84 16 12
$1\frac{1}{2}$

84 16 12
42 8 6

2)127 4 18
11) 63 12 9
add 5 15 10
to 84 16 12

ſtandard 90 12 4

oz.	dwt.	gr.		l.	s.	
90	12	4	of ſtandard at	3	18	per oz.
3					15	

3 l.	270		
2 s.	9		
16 s.	72		
10 dwt.	1	19	
2 dwt.	0	7	$9\frac{3}{5}$
4 gr.	0	0	$7\frac{3}{4}$
	353	7	$5\frac{1}{2}$

	58	10	
		6	
90 oz.	359	0	
10 dwt.	1	19	
2 dwt.	0	7	$9\frac{3}{5}$
4 gr.	0	0	$7\frac{3}{4}$
value required	353	7	$5\frac{1}{2}$

We have found the quantity of ſtandard by two different methods, and caſt up their value at the price of ſtandard per oz. two different ways alſo; we ſhall now find the value of the gold per oz. (three different ways) and caſt it up by the groſs weight.

l.	s.			l.	s.				
3	18			3	18				
	$23\frac{1}{2}$				$1\frac{1}{2}$	By the table			
11	14			3	18	to	3	18	0
78	0			1	19	add	0	5	$3\frac{3}{4}$
1	19								
			2)	5	17		4	3	$3\frac{3}{4}$
2)91	13		11)	2	18 6				
11)45	16	6	add	0	5	$3\frac{9}{11}$			
4	3	$3\frac{9}{11}$	to	3	18	0			
				4	3	$3\frac{9}{11}$ value per oz.			

	oz.	dwt.	gr.		l.	s.	d.
	84	16	12 grofs wt. at		4	3	$3\frac{9}{11}$
	4						7
4 l.	336				29	3	$2\frac{8}{11}$
3 s.	12	12					12
3 d.	1	1					
$\frac{9}{11}$ d.	0	5	$8\frac{8}{11}$	84 oz.	349	18	$8\frac{8}{11}$
4 dwt.	0	16	8	4 dwt	0	16	8
12 dwt.	2	10	0	12 dwt.	2	10	0
$\frac{1}{2}$ dwt.	0	2	1	$\frac{1}{2}$ dwt.	0	2	1
	353	7	$5\frac{8}{11}$ val. pr oz.		353	7	$5\frac{8}{11}$

CASE XXVI.

Given the report of a parting aſſay, and the price of ſtandard gold and ſilver per oz. to find the value of an ounce of the parting.

Example 39. What is the value of a parting aſſay, reported fine gold $\overset{oz.}{1}\ \overset{dwt.}{\mho}$ Wo. $\overset{dwt.}{\mho^{b}}$ ſtandard gold being 3l. 17s. 11d. and ſtandard ſilver 5s 6½d per oz.

1ſt. Find the quantity of ſilver by ſubtracting the quantity of fine gold from 12 oz. 2d. find the value of the ſilver per oz. 3d. find the value of the ſilver in 1 lb.wt. 4th. to that value add the value of the fine gold, which will give the value of 1 lb. wt. of the maſs; laſtly, divide it by 12 gives the value of one ounce of the maſs.

	oz.	dwt.			l.	s.	d.	
From	12	0	groſs wt.	From		5	6½	ſtand.
Take	1	10	fine gold	take			4½	for 15 dwt.
	10	10	ſilver and alloy	at		5	2	
							10	
				10 oz	2	11	8	
				10 dwt.		2	7	
			value of the ſilver in 1lb. wt.		2	14	3	

	l.	s	d.	
to	3	17	11	ſtandard
add		7	1	for 2 carats
1 oz.	4	5	0	fine gold per oz.
10 dwt	2	2	6	
Value of the	6	7	6	gold in 1 lb.
Value of the	2	14	3	ſilver in 1 lb.
	12)9	1	9	
Value of the		15	1¾	parting per oz.

Example 40. What is the value of a parting aſſay reported fine gold $\overset{oz.}{ij}$ $\overset{dwt.}{iiij}$ Wo. $\overset{oz.}{i}$ $\overset{dwt.}{xij}$ ſtandard gold being 3 l. 17 s. 11 d. and ſtandard ſilver 5 s. 6½d per oz.

	oz.	dwt.			s.	d.	
from	12	0	or 1 lb. wt.	from	5	6½	ſtandard
take	1	4	fine gold	take	0	9½	for 1 oz. 12 dwt.
	10	16	ſil. and alloy	at	4	9	ſilver per oz.
						10	

oz.	dwt.	l.	s.	d.
10		2	7	6
	4		0	11⅖
	12		2	10⅕
value the ſilver in 1 lb. wt.		2	11	3⅗

	l.	s.	d.	
To	3	17	11	
Add	0	7	1	
1 oz.	4	5	0	fine gold per oz.
10 dwt.	0	17	0	
	5	2	0	value of gold in 1 lb.
	2	11	$3\frac{3}{5}$	value of ſilver in 1 lb.
12)	7	13	$3\frac{3}{5}$	value of 1lb. of the maſs
		12	$9\frac{3}{10}$	value of 1 oz.

If in the above aſſay the quantity of fine ſilver in the lb. wt. had been reported, inſtead of its worſeneſs, it would have been $\overset{\text{oz.}}{\text{viij}}\ \overset{\text{dwt.}}{13}$ as appears from the method made uſe of in Examp. 33 (p. 40.) which being caſt up at 6 s. per oz. amounts to 2l. 11s. $3\frac{3}{5}$d. as before in the other manner of reporting, and the value of the aſſay is the ſame both ways.

But the eaſieſt way in buſineſs, to caſt up the value of theſe aſſays, after having found the value of the ſilver per oz. by the table, is,

Firſt, to put down for each ſhilling of this value, one penny; and for the parts of a ſhilling, what ſtands againſt ſuch parts, in the little table A; and this as often as there are ounces of fine gold in the report.

Secondly, To this add, what ſtands in the table B, on the ſide againſt ſuch parts of the oz. as are in the gold report, and under the value laſt found at the top.

Thirdly, Take this ſum from the aforeſaid value of the ſilver, and to the remainder add out of table C. for each oz. of fine gold 7s. 1d. for each dwt. 4$\frac{1}{4}$d. and for each $\frac{1}{4}$ dwt. or 6 grains 1d. and you have the value of the aſſay per ounce.

Here follows the three tables.

A TABLE of what is to be taken from the value of an ounce of ſilver between 1 penny and 1 ſhilling, for each ounce of fine gold in the report.

TABLE A.

between	d.	between		between		between	
d. d.		d. d.	d.	d. d.	d.	d. d.	d
1 & 2$\frac{1}{4}$	$\frac{1}{8}$	4 & 5$\frac{1}{4}$	$\frac{3}{8}$	7$\frac{1}{4}$ & 8$\frac{1}{4}$	$\frac{5}{8}$	10 & 11$\frac{1}{4}$	$\frac{7}{8}$.
2$\frac{1}{2}$ & 3$\frac{3}{4}$	$\frac{1}{4}$	5$\frac{1}{2}$ & 6$\frac{3}{4}$	$\frac{1}{2}$	8$\frac{1}{2}$ & 2$\frac{3}{4}$	$\frac{3}{4}$	11$\frac{1}{4}$ & 12	1

TABLE

A Table of what is to be taken from the value of an ounce of the ſilver, for each dwt. of fine gold in the report.

TABLE B.

dwt.	d. 2	d. 2 1/4	d. 2 1/2	d. 2 3/4	d. 3	d 3 1/4	d. 3 1/2	d. 3 3/4
1/2 & 3/4	—	—	—	—	—	—	1/8	1/8
1	1/8	1/8	1/8	1/8	1/8	1/8	1/4	1/4
2	1/4	1/4	1/4	1/4	1/4	1/4	1/4	3/8
3	1/4	1/4	3/8	3/8	1/2	1/2	1/2	1/2
4	3/8	1/2	1/2	3/8	1/2	3/4	3/4	3/4
5	1/2	1/2	5/8	1/2	3/4	3/4	7/8	1
6	1/2	5/8	3/4	3/4	7/8	1	1	1 1/8
7	3/4	7/8	7/8	1	1	1 1/8	1 1/4	1 1/4
8	3/4	7/8	1	1	1 1/4	1 1/4	1 3/8	1 1/2
9	7/8	1	1 1/8	1 1/4	1 1/4	1 1/2	1 1/2	1 3/4
10	1	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4	1 7/8
11	1	1 1/4	1 3/8	1 1/2	1 3/4	1 3/4	1 7/8	2
12	1 1/4	1 3/8	1 1/2	1 1/2	1 3/4	2	2	2 1/4
13	1 1/4	1 1/2	1 5/8	1 3/4	2	2 1/8	2 1/4	2 1/2
14	1 3/8	1 1/2	1 3/4	1 7/8	2	2 1/4	2 1/2	2 5/8
15	1 1/2	1 5/8	1 7/8	2	2 1/4	2 1/2	2 5/8	2 3/4
16	1 1/2	1 3/4	2	2 1/4	2 3/8	2 1/2	2 3/4	3
17	1 3/4	1 3/4	2 1/8	2 1/4	2 1/2	2 3/4	3	3 1/4
18	1 3/4	2	2 1/4	2 1/2	2 3/4	2 7/8	3 1/8	3 3/8
19	1 7/8	2 1/8	2 3/8	2 5/8	2 3/4	3	3 1/4	3 1/2
20	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4

A Table of what is to be taken from the value of an ounce of the ſilver, for each dwt. of fine gold in the report.

TABLE B. continued.

	d.	d.	d.	d.	d.	d.	d.	d.	d.
dwt.	4	4¼	4½	4¾	5	5¼	5½	5¾	6
½ & ¾	⅛	⅛	⅛	⅛	⅛	⅛	⅛	⅛	⅛
1	⅛	¼	¼	¼	¼	¼	¼	¼	¼
2	½	½	½	½	½	½	½	½	½
3	½	⅝	⅝	¾	¾	¾	¾	⅞	⅞
4	¾	¾	⅞	1	1	1	1	1⅛	1¼
5	1	1	1⅛	1¼	1¼	1¼	1⅜	1½	1½
6	1¼	1¼	1¼	1⅜	1½	1½	1⅝	1¾	2
7	1⅜	1½	1½	1⅝	1¾	1¾	1⅞	2	2⅛
8	1½	1¾	1¾	1⅞	2	2	2¼	2¼	2½
9	1¾	1⅞	2	2⅛	2¼	2⅜	2½	2½	2¾
10	2	2⅛	2¼	2⅜	2½	2⅝	2¾	2⅞	3
11	2¼	2¼	2½	2⅝	2¾	2⅞	3	3⅛	3¼
12	2⅜	2½	2¾	2¾	3	3⅛	3¼	3½	3½
13	2½	2¾	2⅞	3	3¼	3⅜	3½	3⅞	3⅞
14	2¾	3	3⅛	3¼	3½	3⅝	3¾	4	4⅛
15	3	3⅛	3⅜	3½	3¾	3⅞	4⅛	4¼	4½
16	3¼	3⅜	3½	3¾	4	4¼	4⅜	4½	4¾
17	3⅜	3⅝	3¾	4	4¼	4⅜	4½	4⅞	5
18	3½	3¾	4	4¼	4½	4¾	4⅞	5⅛	5⅜
19	3¾	3¾	4¼	4½	4¾	5	5¼	5½	5¾
20	4	4¼	4½	4¾	5	5¼	5½	5¾	6

A Table of the value of the fine gold contained in a parting aſſay, for every ſix grains under one ounce.

TABLE C.

d.	gr.	s.	d.	dt.	gr.	s.	d.	dt.	gr.	s.	d	dt.	gr.	s.	d.
	6		1	5	6	1	10¼	10	6	3	7½	15	6	5	4¾
	12		2	5	12	1	11¼	10	12	3	8½	15	12	5	5¾
	18		3	5	18	2	0¼	10	18	3	9½	15	18	5	6¾
1			4¼	6		2	1½	11		3	10¾	16		5	8
1	6		5¼	6	6	2	2½	11	6	3	11¾	16	6	5	9
1	12		6¼	6	12	2	3½	11	12	4	0¾	16	12	5	10
1	18		7¼	6	18	2	4½	11	18	4	1¾	16	18	5	11
2	0		8½	7		2	5¾	12		4	3	17		6	0¼
2	6		9½	7	6	2	6¾	12	6	4	4	17	6	6	1¼
2	12		10½	7	12	2	7¾	12	12	4	5	17	12	6	2¼
2	18		11½	7	18	2	8¾	12	18	4	6	17	18	6	3¼
3	0	1	0¾	8	0	2	10	13		4	7¼	18		6	4½
3	6	1	1¾	8	6	2	11	13	6	4	8¼	18	6	6	5½
3	12	1	2¾	8	12	3	0	13	12	4	9¼	18	12	6	6½
3	18	1	3¾	8	18	3	1	13	18	4	10¼	18	18	6	7½
4	0	1	5	9	0	3	2¼	14		4	11½	19		6	8¾
4	6	1	6	9	6	3	3¼	14	6	5	0½	19	6	6	9¾
4	12	1	7	9	12	3	4¼	14	12	5	1½	19	12	6	10¾
4	18	1	8	9	18	3	5¼	14	18	5	2½	19	18	6	11¾
5	0	1	9¼	10		3	6½	15		5	3¾	1 °3		7	1

What

Example 41. What is the value of a parting aſſay, reported Br. $\underset{\text{viij}}{\overset{\text{dwt}}{\dots}}$ fine gold $\underset{\text{ij}}{\overset{\text{oz}}{\dots}}\ \underset{\text{xiij}}{\overset{\text{dwt}}{\dots}}$ ſtandard ſilver being at 5s. 6d. and ſtandard gold at 3l. 18s. per ounce?

		s.	d.
To the value of ſtandard ——		5	6
Add that of 8 dwt. ——			$2\frac{1}{2}$
Value of the ſilver per oz. —		5	$8\frac{1}{2}$
Then for 5s. take 5d. and from table A, for the $8\frac{1}{2}$d. take $\frac{3}{4}$d. makes $5\frac{3}{4}$d. for 1 oz. and for the 2 oz. it makes ——	$11\frac{1}{2}$		
And from table B. againſt 13 dwt. and under *$5\frac{3}{4}$d take ——	$3\frac{7}{8}$		
——		1	$3\frac{3}{8}$
		4	$5\frac{1}{8}$
To which add from table C. for 2 oz. of fine gold 14s. 2d. and for 13 dwt. 4 s. $7\frac{1}{4}$d. makes		18	$9\frac{1}{4}$
Value of the aſſay per oz. —	1	3	$2\frac{3}{8}$

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* The bare inſpection of the table will ſhew what to take out when theſe values happen to be $\frac{1}{8}$, $\frac{3}{8}$, $\frac{5}{8}$, or $\frac{7}{8}$, inſtead of $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{3}{4}$, which ſeldom make any difference, and never more than $\frac{1}{2}$ a farthing per oz.

The

The Doctrine of Pars.

The par of money, or of exchange, is the equated nominal value, which any determinate weight of fine ſilver or fine gold, has given to it in two different nations or places.

The requiſite data to find which par, is the weight and fineneſs of the piece whoſe value is ſought, and the value of one ounce of ſtandard gold or ſilver; and as the price of ſtandard alters, ſo does the par with it.

By indenture between the King and the maſter of the mint, 62 ſhillings of ſtandard ſilver are to weigh 12 ounces, or one pound troy, and 5 ſhillings and two pence to weigh one ounce, and it appears from Examp. 31. that at this rate 1 oz. of fine ſilver is worth 5 s. 7 d. and that 1 lb. is 3 l. 7 s. and ſilver in coin has continued on this footing ever ſince the year 1601.

By indenture as before, 44 guineas and one half guinea are to weigh one pound troy, each of which paſſing at 21 ſhillings, makes the value of the pound weight 46 l. 14 s. 6 d. and the value of 1 ounce is 3l. 17s. 10s $\frac{1}{2}$d. the value of 1 ounce of fine gold is 4l. 5s. and the lb. wt. 50l 19s. 5$\frac{5}{11}$d. and upon this footing our gold has been coined ever ſince the year 1718.

The value of ſtandard in bullion or uncoined ſilver, is continually fluctuating, being ſometimes 5s. 3d. and at other times 5s. 9d. or more, but at preſent it is about 5s. 6d. which is nearly its value in the neighbouring kingdoms; the value of gold bullion is alſo ſubject to change, but not like the ſilver, and is generally about 3l. 18s. per ounce.

And as no foreign ſilver coin is ſuffered to be current in England, but is conſidered as bullion; therefore it is the price of bullion from which their par or value muſt be eſtimated, and not from that of the coin, and the caſe is the ſame alſo with foreign gold coin, except that of Portugal, which however only paſſes by courteſy, and not by law.

The pars of imaginary money denominations, are drawn from thoſe of the real coins, and beſides the different values they will have when eſtimated from bullion or coin; they will likewiſe be different if drawn from gold money than if drawn from ſilver, having the greateſt value from the ſilver, if the proportion is higher, and the leaſt value if it is owe r, then in that place with which it is compared.

The materials above are thoſe which compoſe the doctrine of exchange, and with which its very foundation is laid, yet are ſeldom ſo much as mentioned in the treatiſes we generally have on that ſubject, ſo that we can neither inveſtigate the pars, nor examine whether thoſe that are there given are true or falſe.

The ſame data are given, and the ſame things required in finding of the par, as are in CASE XXV. and the ſolution is the ſame, and may be performed by any of the methods made uſe of in the Examples under that Caſe, it being only a particular application of that caſe to money.

Example 42. What is the value of the Dutch Guilder, or its par in Engliſh money, it weighing 6 dwt. 18 gr. and is 11 oz. fine, or Wo. [illegible] ſtandard ſilver being 5s. 6½d. per oz.?

By the Table.

	s.	d.
From	5	6½
Take	0	0½
	5	6

	dwt. gr.		s.	d.
Then	6 18	at	5	6
5 dwt.			1	4½
1 dwt. 6 gr.			0	4⅛
12 gr.			0	1½
			1	10⅛ the par.

The par may likewiſe be found in the following manner, reduce the weight of the piece into grains, and the fineneſs of it into penny weights, multiply them together, and multiply that product by 623, and dot off the laſt 6 figures to the right hand, and then thoſe to the left hand of the dot are the par in pence, and if the next figures are .25 .5, or .75, it is ¼, ½, or 3 farthings more.

Thus in the laſt Examp. 6 dwt. 18 gr. is 162 gr.
and 11 oz. is 220 dwt. 220

```
   3240
  3240
  -----
  35640
    623
  -----
  10692
  7128
 21384
 ------
22.203720
```

and the anſwer is 22d or 1s. 10d.

The multiplicator or factor 623, will only be the true one when ſtandard is 5s. 6½d. per oz. and alters with the price of ſtandard, as appears by the following little table.

s.	d.	factors	s.	d.	factors
5	9	647	5	5	610
5	8½	643	5	4½	605
5	8	638	5	4	600
5	7½	633	5	3½	596
5	7	628	5	3	591
5	6½	623	5	2½	586
5	6	619	5	2	582
5	5½	614			

What

Example 43. What is par of the Spaniſh pillar piece of eight, weighing 17. dwt. 9 gr. or 418 gr. Wo. [illegible] or 217 dwt. fine, ſtandard ſilver being 5 s. 4 d per oz. ?

Multiply 418 by 217, the product is 90706, which multiplied by 600, the number againſt 5 s. 4 d. in the little table, and dotting off 6 figures, the ſum is 54.423600 pence, or 4s. $6\frac{3}{8}$d. the value required.

Example 44. What is the value or par of the preſent French Louis d'or, weighing 5 dwt. 6 gr. and 22 carats fine, or ſtandard ?

dwt.	gr.			l.	s.		
5	6	at		3	18		
			5 dwt.	0	19	6	
			6 gr.	0	1	0	nearly
				1	0	6	the par

This Louis d'or is current for 24 Livres, therefore 1 livre is worth about $10\frac{1}{4}$d, and the crown of exchange of 3 livres is worth 2s $6\frac{3}{4}$d.

Example 44. What is the value of a ducat, weighing 2 dwt. 6 gr. Br. $\overset{ca}{\text{i}}\ \overset{gr}{\text{iij}}$ ſtandard being 3 l. 18 s. per ounce?

	l.	s.	d.	
To	3	18	0	price of ſtandard
Add	0	6	$2\frac{3}{8}$	value of 1 car. 3 gr.
	4	4	$2\frac{3}{8}$	value of ducat gold per oz.
2 dwt.	0	8	5	
6 gr.	0	1	$0\frac{5}{8}$	
	0	9	$5\frac{5}{8}$	the par, or value of the ducat

The par in gold may likewiſe be found as it was in the ſilver by a common multiplicator, which when ſtandard is 3l. 18s. per oz. is .0885, by which if we multiply the product of the weight and fineneſs, and dot off 4 figures more to the right hand we ſhall have the value.

Thus in the laſt Example 54 gr. multiplied by $23\frac{3}{4}$ car. multiplied by .0885 is 113.501250, and dotting off the 6 laſt figures it is 113.501250 pence, or 9s. $5\frac{1}{2}$d. for the value, of the ducat.

The Doctrine of Proportion between Silver and Gold.

By the term proportion, in treating of this ſubject, we underſtand the true value of fine gold; that is, how many pounds weight of fine ſilver is given in exchange for one pound weight of fine gold.

This true value of gold is found from the nominal values which one pound weight of fine ſilver, and one pound weight of fine gold, are coined into; the former of which we have juſt now ſeen is 67 ſhillings, or 3 l. 7 s. and the latter is 50 l. 19 s. $5\frac{1}{2}$d. and as many times as 3 l. 7 s. is contained in 50l. 19s. $5\frac{1}{2}$ ſo many pounds of fine ſilver are given for 1 lb. of fine gold, and conſtitute its true value, and is about $15\frac{1}{6}$ times its quantity of fine ſilver.

But when bullion is at 5s. 6d per oz. and gold as above, the proportion is found to be $14\frac{2}{7}$, and in general it will be found to be included between the numbers 14 and 15, amongſt moſt of the European Kingdoms and States, but oftner nearer to the firſt than the laſt of thoſe numbers, and few if any examples are to be met with at preſent of its being leſs than 14, or more than 15.

Example 45. There are 62 ſhillings coined out of 1 lb. troy of ſtandard ſilver, and $44\frac{1}{2}$ guineas coined out of the ſame lb. of ſtandard gold, each current for 21 ſhillings, what is the proportion between ſilver and gold in this coinage?

dwt. s. dwt. s.
As 222 : 62 :: 240 : $67\frac{1}{37}$ value of 1 lb. of fine ſilver.

car. gu. cr. gu. s.
As 22 : $44\frac{1}{2}$ :: 24 : $48\frac{6}{11}$ each 21 value of 1 lb. fine gold.

And $48\frac{6}{11}$ multiplied by 21 is $1019\frac{5}{11}$ value of ditto in ſhillings.

s. s. lb. lb. [parts of 1 lb.
As $67\frac{1}{37}$: $1019\frac{5}{11}$ :: 1 : 15 and 5718 in 27280

```
   37        11                       12
  ----     -----                    ------
  470      112.4            27280)68616(2 oz.
  201         37                  14056
  ----     ------                    20
  2480     78498                  -------
    11     33642            27280)281120(10 dwt.
  -----    ------                  8320
  27280                              24
     27280)414918(15 lb.          -------
           14211            27280)199680(7 gr.
  remains   5718                   8720
```

And the proportion is 15 lb. 2 oz. 10 dwt. 7 gr.

Inſtead of working by vulgar fractions as above, if we work it by decimals it will be ſooner done.

```
67 1/37 is 67.027, and 1019 5/11 is 1019.4545454.
                                        [10 dwt. 7 gr.
And 67027)1019.4545454(15.2096 or 15 lb. 2 oz.
               349184          12
                140495      ———————
                 644145      2.5152
                  409024         20
                    6862    ———————
                            10.3040
                                 24
                            ———————
                             7.2960
```

In like manner the proportion kept at preſent in bullion, may be found the price of ſtandard ſilver being at 5s. 6d. and gold 3l. 18s. and is 14.2878, or 14 lb. 3 oz. 9 dwt. 1 gr.

There is alſo another data beſides that above to find the proportion, which is the weight, fineneſs and value of a piece of gold, or a piece of ſilver coin: inſtead of that of the pound weight.

Example 46. What is the proportion kept in our preſent coinage, a ſhilling weighing 92 $\frac{28}{31}$ troy grains, and a guinea 129 $\frac{39}{89}$, and being current for 21 ſhillings?

As 24 car. : 22 ca. :: $129\frac{39}{59}$ gr. : $118\frac{58}{89}$ gr. fine gold in a guinea.

As 12 oz. : $11\frac{1}{10}$ oz. :: $92\frac{28}{31}$ gr. : $85\frac{29}{31}$ gr. fine ſilver in a ſhilling, which × by 21 is $1804\frac{20}{31}$ fine ſilver in a guinea.

And $118\frac{58}{89}$: $1804\frac{20}{31}$ :: 1 : 15 2 10 7

89 31

1062 1804
944 5412
58 20

10560 55944
31 89

10560 503496
31680 447552

327360) 4979016 (15 lb.
1705416
68616
12

327360) 823392 (2 oz.
168672
20

327360) 3373440 (10 dwt.
99840
24

399360
199680

327360) 2396160 (7 gr.
104640

As

The ſame queſtion is worked by decimals, as follows.

```
    129.428 wt. guinea      92.903wt. of a ſhilling
         22 fine of ditto     11.1 fineneſs of ditto
    -------                 ------
     258876                  92903
    258876                  92903
    -------                92903
 12)2847 636               -------
   2)237.303         12)1031.2233
    118.651 fine gold    85.9352 fi.ſil in 1 ſhilling
in 1 guinea]                  21 ſhil. in 1 guinea
                         -------
                         85.9352
                         171 8704
                        --------
          118.6515)180.46392 (    15.20958
                    6181242             12
                    2486670       --------
                     11364000      2.51496
                      6853650           20
                       921075     --------
                                  10.29920
                                        24
                                  --------
                                      7.18
```

Although the work is more operoſe by vulgar than by decimal fractions, yet it has the advantage of being entirely correct, and at the ſame time the reaſons of the operation, and any error in the concluſion, is ſooner diſcovered this way than the other, which is the reaſon we have preferred it in our inveſtigation * of the value and proportion of our ſilver and gold coin for 6 or 700 years.

---

* See the tables to our view of the ſilver and gold coinage.

The two diviſions above by 24 and by 12 will be ſaved if we perform it by the following rule. 1ſt. multiply the weight of the ſilver piece of money by its fineneſs, and multiply the product by double the value of the gold piece, this laſt ſum divided by the product of the weight and fineneſs of the gold piece, gives the anſwer.

The product of the weight and fineneſs of the ſilver piece above, is 1031.2233
double value gold piece is 42
————
20624466
41248932
The product of the wt. ————
and value of the 2847636)43311.3786(15.296
gold piece]

If the ſame fineneſs was kept both in the ſilver and gold coins, that is 11 oz. in the ſilver and 22 car. in the gold or 10½ oz. in the ſilver and 21 car. in the gold then the labour in finding the proportion would be much leſſened; for in that caſe we muſt firſt find how many of the ſilver paſſes for one of the gold, which being multiplied into the weight of the ſilver, and divided by the weight of the gold, will give us the proportion required.

Example 47. The Ecu in France weighs 19 dwt. or 456 gr. is current for 6 livres, and the louis d'or weighs 5 dwt. 6 gr. or 126 gr. for 24 livres, and are both the ſame fineneſs, what is the proportion.

li. gr.

6)24(4 456 wt. of the ecu

4 ecus in 1 louis d'or

wt. of louis d'or 126)1824(14½ the proportion

564

60

Example 48. In Holland the piece of 3 guilders weighs 1 oz. 6 gr. or 486 gr. and the ryder or piece of 14 guilders weighs 6 dwt. 10 gr. or 154 gr. and are both of the ſame fineneſs, what is the proportion?

3)14(4$\frac{2}{3}$ 486 weight of the 3 guilders

4$\frac{2}{3}$

1944

162

162

wt. of a rider 154) 2268(14$\frac{8}{11}$ the proportion

728

112

Thoſe countries wherein they obſerve a higher proportion than their neighbours, are in danger of having their ſilver drawn from them in exchange for gold, as is the caſe at preſent with Great Britain, and thoſe which have a lower proportion the contrary.

TABLES

OF THE

QUANTITY

OF

Standard SILVER,

Contained in any Ingot under the Weight of 500 Ounces;

AND

From one Ounce to one Half-Pennyweight in Fineneſs.

	j oʒ.			[illegible]			[illegible]		
oz.	oz.	dwt.	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	45	0	21⅝	43	18	9⅛	42	15	20½
400	36	0	17¼	35	2	16⅞	34	4	16⅜
300	27	0	13	26	7	0⅝	25	13	12⅜
200	18	0	8⅝	17	11	8½	17	2	8¼
100	9	0	4⅜	8	15	16¼	8	11	4⅛
90	8	2	3⅞	7	18	2⅝	7	14	1¼
80	7	4	3½	7	0	13	6	16	22½
70	6	6	3	6	2	23½	5	19	19⅝
60	5	8	2⅝	5	5	9¾	5	2	16⅞
50	4	10	2⅛	4	7	20⅛	4	5	14
40	3	12	1¾	3	10	6½	3	8	11¼
30	2	14	1¼	2	12	16⅞	2	11	8⅜
20	1	16	0⅞	1	15	3¼	1	14	5⅝
10	0	18	0⅜	0	17	13⅝	0	17	2¾
9	0	16	5⅛	0	15	19½	0	15	9¾
8	0	14	10	0	14	1¼	0	13	16⅝
7	0	12	14¾	0	12	7⅛	0	11	23⅝
6	0	10	19½	0	10	13	0	10	6½
5	0	9	0¼	0	8	18¾	0	8	13⅜
4	0	7	5	0	7	0⅝	0	6	20⅝
3	0	5	9¾	0	5	6½	0	5	3¼
2	0	3	14½	0	3	12⅜	0	3	10⅛
1 oz.	0	1	19¼	0	1	18⅛	0	1	17⅛
19	0	1	17⅛	0	1	16⅛	0	1	15⅛
17	0	1	12¾	0	1	11⅞	0	1	10⅞
13	0	1	4⅛	0	1	3⅜	0	1	2¾
11	0	0	23¾	0	0	23	0	0	22⅝
10	0	0	21⅝	0	0	21	0	0	20½
9	0	0	19½	0	0	19	0	0	18½
8	0	0	17¼	0	0	16⅞	0	0	16⅜
7	0	0	15⅛	0	0	14¾	0	0	14⅜
6	0	0	13	0	0	12⅝	0	0	12⅜
5	0	0	10¾	0	0	10½	0	0	10¼
4	0	0	8⅝	0	0	8⅜	0	0	8¼
3	0	0	6½	0	0	6⅜	0	0	6⅛
2	0	0	4⅜	0	0	4¼	0	0	4⅛
1 dwt.	0	0	2⅛	0	0	2⅛	0	0	2
½	0	0	1⅛	0	0	1	0	0	1

	[illegible]			[illegible]			[illegible]		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	41	13	8	40	10	19½	39	8	6⅞
400	33	6	16	32	8	15⅝	31	10	15⅛
300	25	0	0	24	6	11⅝	23	12	23⅜
200	16	13	8	16	4	7¾	15	15	7⅝
100	8	6	16	8	2	3⅞	7	17	15¾
90	7	10	0	7	5	22¾	7	1	21⅜
80	6	13	8	6	9	17½	6	6	3
70	5	16	16	5	13	12⅜	5	10	8⅝
60	5	0	0	4	17	7⅛	4	14	14¼
50	4	3	8	4	1	2	3	18	19⅞
40	3	6	16	3	4	20¾	3	3	1½
30	2	10	0	2	8	15⅝	2	7	7⅛
20	1	13	8	1	12	10⅜	1	11	12¾
10	0	16	16	0	16	5⅛	0	15	18⅜
9	0	15	0	0	14	14¼	0	14	4½
8	0	13	8	0	12	23⅜	0	12	14⅝
7	0	11	16	0	11	8⅜	0	11	0¾
6	0	10	0	0	9	17½	0	9	11⅛
5	0	8	8	0	8	2⅝	0	7	21¼
4	0	6	16	0	6	11⅝	0	6	7⅜
3	0	5	0	0	4	20¾	0	4	17½
2	0	3	8	0	3	5⅞	0	3	3⅝
1 oz.	0	1	16	0	1	14⅞	0	1	13⅞
19	0	1	14	0	1	13	0	1	12
17	0	1	10	0	1	9⅛	0	1	8¼
13	0	1	2	0	1	1¼	0	1	0⅝
11	0	0	22	0	0	21⅜	0	0	20⅞
10	0	0	20	0	0	19½	0	0	18⅞
9	0	0	18	0	0	17½	0	0	17
8	0	0	16	0	0	15⅝	0	0	15⅛
7	0	0	14	0	0	13⅝	0	0	13¼
6	0	0	12	0	0	11⅝	0	0	11⅜
5	0	0	10	0	0	9¾	0	0	9½
4	0	0	8	0	0	7¾	0	0	7⅝
3	0	0	6	0	0	5⅞	0	0	5⅝
2	0	0	4	0	0	3⅞	0	0	3¾
1 dwt.	0	0	2	0	0	2	0	0	1⅞
½	0	0	1	0	0	1	0	0	1

	[illegible]			[illegible]			[illegible]		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt.	gr.
500	38	15	18 3/8	37	3	5 7/8	36	0	17 3/8
400	30	12	14 3/4	29	14	14 1/4	28	16	13 7/8
300	22	19	11	22	5	22 3/4	21	12	10 3/8
200	15	6	7 3/8	14	17	7 1/8	14	8	7
100	7	13	3 5/8	7	8	15 3/8	7	4	3 1/2
90	6	17	20 1/8	6	13	18 3/4	6	9	17 1/2
80	6	2	12 1/2	5	18	22	5	15	7 5/8
70	5	7	5	5	4	1 1/4	5	0	21 5/8
60	4	11	21 3/8	4	9	4 1/2	4	6	11 5/8
50	3	16	13 7/8	3	14	7 3/4	3	12	1 3/4
40	3	1	6 1/4	2	19	11	2	17	15 3/4
30	2	5	22 3/4	2	4	14 1/4	2	3	5 7/8
20	1	10	15 1/8	1	9	17 1/2	1	8	19 7/8
10	0	15	7 5/8	0	13	20 3/4	0	14	10
9	0	13	18 7/8	0	11	9 5/8	0	12	23 3/8
8	0	12	6	0	10	21 3/8	0	11	12 3/4
7	0	10	17 1/4	0	8	9 3/4	0	10	2 1/8
6	0	9	4 1/2	0	7	22	0	8	15 1/2
5	0	7	15 3/4	0	5	10 3/8	0	7	5
4	0	6	3	0	4	22 3/4	0	5	18 3/8
3	0	4	14 1/4	0	2	11	0	4	7 3/4
2	0	3	1 1/2	0	1	23 3/8	0	2	21 3/8
1 oz.	0	1	12 3/4	0	1	11 3/8	0	1	10 5/8
19	0	1	10 7/8	0	1	9 1/4	0	1	8 7/8
17	0	1	7 1/4	0	0	5 3/4	0	1	5 3/8
13	0	0	23 7/8	0	0	22 3/4	0	0	22 1/2
11	0	0	20 1/4	0	0	19 1/4	0	0	19 1/8
10	0	0	18 3/8	0	0	17 1/2	0	0	17 1/4
9	0	0	16 1/2	0	0	15 3/4	0	0	15 5/8
8	0	0	14 3/4	0	0	14	0	0	13 7/8
7	0	0	12 7/8	0	0	12 1/4	0	0	12 1/8
6	0	0	11	0	0	10 1/2	0	0	10 1/2
5	0	0	9 1/4	0	0	8 3/4	0	0	8 7/8
4	0	0	7 3/8	0	0	7	0	0	7
3	0	0	5 1/2	0	0	5 1/4	0	0	5 1/4
2	0	0	3 5/8	0	0	3 1/2	0	0	3 1/2
1 dwt.	0	0	1 7/8	0	0	1 3/4	0	0	1 3/8
1/2	0	0	1	0	0	0 7/8	0	0	0 7/8

	[illegible]			[illegible]			[illegible]		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	34	18	4¾	33	15	16¼	32	13	3⅝
400	27	18	13⅜	27	0	13	26	2	12½
300	20	18	22	20	5	9¾	19	11	21⅜
200	13	19	6¾	13	10	6½	13	1	6¼
100	6	19	15⅜	6	15	3¼	6	10	15⅛
90	6	5	16	6	1	14⅞	5	17	18⅜
80	5	11	17⅛	5	8	2⅝	5	4	12
70	4	17	18	4	14	14¼	4	11	10⅝
60	4	3	18⅞	4	1	2	3	18	19
50	3	9	19⅝	3	7	13⅝	3	5	7⅝
40	2	15	20½	2	14	1¼	2	12	6
30	2	1	21⅜	2	0	13	1	19	4½
20	1	7	22¼	1	7	0⅝	1	6	3
10	0	13	23⅛	0	13	12⅜	0	13	1½
9	0	12	13⅝	0	12	3⅞	0	11	18⅛
8	0	11	4⅛	0	10	19⅜	0	10	5⅜
7	0	9	18½	0	9	11	0	8	22¾
6	0	8	9⅛	0	8	2½	0	7	16
5	0	6	23⅝	0	6	18⅛	0	6	9⅜
4	0	5	14	0	5	9¾	0	5	2¾
3	0	4	4⅝	0	4	1¼	0	3	20
2	0	2	19	0	2	16⅞	0	2	13⅜
1 oz.	0	1	9½	0	1	8⅜	0	1	6⅝
19	0	1	7⅞	0	1	6¾	0	1	5⅛
17	0	1	4½	0	1	3⅝	0	1	2⅛
13	0	0	21¼	0	0	21	0	0	19⅞
11	0	0	18⅜	0	0	17⅞	0	0	16⅞
10	0	0	16¾	0	0	16¼	0	0	15⅜
9	0	0	15⅛	0	0	14⅝	0	0	13⅞
8	0	0	13⅜	0	0	13	0	0	12¼
7	0	0	11¾	0	0	11⅜	0	0	10¾
6	0	0	10	0	0	9¾	0	0	9¼
5	0	0	8⅜	0	0	8⅛	0	0	7⅝
4	0	0	6¾	0	0	6½	0	0	6⅛
3	0	0	5	0	0	4⅞	0	0	4⅝
2	0	0	3⅜	0	0	3¼	0	0	3⅛
1 dwt.	0	0	1⅝	0	0	1⅝	0	0	1½
½	0	0	0⅞	0	0	0⅞	0	0	0¾

	Ɛoiiij dwt.			Ɛoiij dwt gr.			Ɛoiij dwt.		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	31	10	15¼	30	8	2⅝	29	5	14
400	25	4	12⅛	24	6	11⅝	23	8	4¾
300	18	18	9⅛	18	4	20¾	17	11	8½
200	12	12	6	12	3	5⅞	11	14	5⅝
100	6	6	3	6	1	14⅞	5	17	2⅞
90	5	13	12⅜	5	9	11	5	5	9¾
80	5	0	21⅝	4	17	7⅞	4	13	16⅝
70	4	8	6⅞	4	5	3⅝	4	1	23⅝
60	3	15	16¼	3	12	23⅜	3	10	6½
50	3	3	1½	3	0	19½	2	18	15⅜
40	2	10	10⅜	2	8	16	2	6	20⅜
30	1	17	20⅛	1	16	11⅝	1	15	3¼
20	1	5	5⅜	1	4	8	1	3	10⅛
10	0	12	14¾	0	12	4	0	11	17⅛
9	0	11	8½	0	10	20½	0	10	13
8	0	10	2⅛	0	9	15⅝	0	9	8⅞
7	0	8	19⅞	0	8	10⅝	0	8	4¾
6	0	7	13⅝	0	7	7⅜	0	7	0⅝
5	0	6	7⅜	0	6	2	0	5	20½
4	0	5	1⅛	0	4	20¾	0	4	16⅜
3	0	3	18⅞	0	3	15⅝	0	3	12⅜
2	0	2	12½	0	2	10⅜	0	2	8¼
1 oz.	0	1	6¼	0	1	5¼	0	1	4⅛
19	0	1	4¾	0	1	3½	0	1	2¾
17	0	1	1¾	0	1	0⅜	0	0	23⅞
13	0	0	19⅝	0	0	18¾	0	0	18¼
11	0	0	16⅝	0	0	15⅞	0	0	15½
10	0	0	15⅛	0	0	14½	0	0	14
9	0	0	13⅝	0	0	13	0	0	12⅝
8	0	0	12⅛	0	0	11⅝	0	0	11¼
7	0	0	10⅝	0	0	10⅛	0	0	9⅜
6	0	0	9⅛	0	0	8¾	0	0	8⅜
5	0	0	7⅝	0	0	7¼	0	0	7
4	0	0	6	0	0	5¾	0	0	5⅝
3	0	0	4½	0	0	4⅜	0	0	4¼
2	0	0	3	0	0	2⅞	0	0	2¾
1 dwt.	0	0	1½	0	0	1½	0	0	1⅜
½	0	0	0¼	0	0	0¾	0	0	0¾

	[illegible]			[illegible]			[illegible]		
oz.	oz.	dwt.	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	28	3	1½	27	0	13	25	18	0⅜
400	22	10	10¾	21	12	10⅜	20	14	10
300	16	17	20⅛	16	4	7¾	15	10	19½
200	11	5	5⅜	10	16	5¼	10	7	5
100	5	12	14¾	5	8	2⅝	5	3	14½
90	5	1	8½	4	17	7⅛	4	13	5⅞
80	4	10	2⅛	4	6	11⅝	4	2	21¼
70	3	18	20	3	15	16¼	3	12	12½
60	3	7	13⅞	3	4	20¾	3	2	3⅞
50	2	16	7⅜	2	14	1¼	2	11	19¼
40	2	5	1⅛	2	3	5⅞	2	1	10⅝
30	1	13	18⅞	1	12	10⅜	1	11	2
20	1	2	12½	1	1	14⅞	1	0	17¼
10	0	11	6¼	0	10	19½	0	10	8⅝
9	0	10	3¼	0	9	17½	0	9	7¾
8	0	9	0¼	0	8	15⅝	0	8	6⅞
7	0	7	21⅛	0	7	13⅝	0	7	6
6	0	6	18⅛	0	6	11⅝	0	6	5¼
5	0	5	15⅛	0	5	9¾	0	5	4⅜
4	0	4	12⅛	0	4	7¾	0	4	3½
3	0	3	9⅛	0	3	5⅞	0	3	2⅝
2	0	2	6	0	2	3⅞	0	2	1¾
1 oz.	0	1	3	0	1	2	0	1	0⅞
19	0	1	1⅝	0	1	0⅝	0	0	23⅝
17	0	0	23	0	0	22	0	0	21⅛
13	0	0	17⅝	0	0	16⅞	0	0	16⅛
11	0	0	14⅞	0	0	14¼	0	0	13⅝
10	0	0	13½	0	0	13	0	0	12⅝
9	0	0	12⅛	0	0	11⅝	0	0	11¼
8	0	0	10¾	0	0	10⅜	0	0	10
7	0	0	9½	0	0	9⅛	0	0	8¾
6	0	0	8⅛	0	0	7¾	0	0	7½
5	0	0	6¾	0	0	6½	0	0	6¼
4	0	0	5⅜	0	0	5¼	0	0	5
3	0	0	4	0	0	3⅞	0	0	3¾
2	0	0	2¾	0	0	2⅝	0	0	2½
1 dwt.	0	0	1⅜	0	0	1¼	0	0	1¼
½	0	0	0¾	0	0	0⅝	0	0	0⅝

	12 [illegible]			2 [illegible] gr.			2 [illegible]		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	24	15	11⅞	23	12	23⅜	22	10	10¾
400	19	16	9½	18	18	9⅛	18	0	8⅝
300	14	17	7⅛	14	3	18¾	13	10	6½
200	9	18	4¾	9	9	4½	9	0	4⅜
100	4	19	2⅜	4	14	14¼	4	10	2⅛
90	4	9	4½	4	4	3¼	4	1	2
80	3	19	6¾	3	15	16¼	3	12	1¾
70	3	9	8⅞	3	5	5¼	3	3	1½
60	2	19	11	2	16	18⅛	2	14	1¼
50	2	9	13¼	2	7	7⅛	2	5	1⅛
40	1	19	15⅜	1	17	20⅛	1	16	0⅞
30	1	9	17½	1	8	9⅛	1	7	0⅝
20	0	19	19⅝	0	18	22	0	18	0⅜
10	0	9	21⅞	0	9	11	0	9	0¼
9	0	8	22	0	8	12⅜	0	8	2⅝
8	0	7	22¼	0	7	13⅝	0	7	5
7	0	6	22½	0	6	14⅞	0	6	7⅜
6	0	5	22⅝	0	5	16¼	0	5	9¾
5	0	4	22⅞	0	4	17½	0	4	12⅛
4	0	3	23⅛	0	3	18¾	0	3	14½
3	0	2	23⅜	0	2	20⅛	0	2	16⅞
2	0	1	23⅝	0	1	21⅜	0	1	19¼
1 oz.	0	0	23⅞	0	0	22¾	0	0	21⅝
19	0	0	22¾	0	0	21⅝	0	0	20½
17	0	0	20¼	0	0	19¾	0	0	18⅜
13	0	0	15⅜	0	0	14¾	0	0	14
11	0	0	13⅛	0	0	12½	0	0	11⅞
10	0	0	11⅞	0	0	11⅜	0	0	10¾
9	0	0	10⅞	0	0	10¼	0	0	9¾
8	0	0	9½	0	0	9⅛	0	0	8⅝
7	0	0	8¼	0	0	8	0	0	7⅝
6	0	0	7⅛	0	0	6¾	0	0	6½
5	0	0	6	0	0	5⅝	0	0	5⅜
4	0	0	4¾	0	0	4½	0	0	4⅜
3	0	0	3⅝	0	0	3⅜	0	0	3¼
2	0	0	2⅜	0	0	2¼	0	0	2⅛
1 dwt.	0	0	1¼	0	0	1⅛	0	0	1⅛
½	0	0	0⅝	0	0	0⅝	0	0	0⅝

	[illegible]			[illegible]			[illegible]		
oz.	oz.	dwt	gr.	oz.	dwt	g	oz.	dwt	gr.
500	2	7	22¼	20	5	9¾	19	2	21¼
400	7	2	8¼	16	4	7¼	15	6	7⅜
300	12	16	18⅛	12	3	5⅞	11	9	17⅛
200	8	11	4¼	8	2	3⅞	7	13	3⅝
100	4	5	14	4	1	2	3	16	13⅞
90	3	17	0⅝	3	12	23⅜	3	8	22
80	3	8	11¼	3	4	20¾	3	1	6¼
70	2	19	21⅞	2	16	18⅛	2	13	14½
60	2	11	8⅜	2	8	15⅝	2	5	22¾
50	2	2	19	2	0	13	1	18	6⅞
40	1	14	5⅝	1	12	10⅜	1	10	15⅛
30	1	5	16¼	1	4	7¾	1	2	23⅜
20	0	17	2¾	0	16	5¼	0	15	7⅝
10	0	8	13⅜	0	8	2⅝	0	7	15¾
9	0	7	16⅞	0	7	7⅛	0	6	21⅛
8	0	6	20⅜	0	6	11⅝	0	6	3
7	0	5	23¾	0	5	16¼	0	5	8⅝
6	0	5	3¼	0	4	20¾	0	4	14¼
5	0	4	6¾	0	4	1¼	0	3	19⅞
4	0	3	10⅛	0	3	5⅞	0	3	1½
3	0	2	13⅝	0	2	10⅜	0	2	7⅛
2	0	1	17⅛	0	1	14⅞	0	1	12¾
1 oz.	0	0	20½	0	0	19½	0	0	18⅜
19	0	0	19½	0	0	18½	0	0	17½
17	0	0	17½	0	0	16½	0	0	15⅝
13	0	0	13⅜	0	0	12⅝	0	0	12
11	0	0	11¼	0	0	10¼	0	0	10⅛
10	0	0	10¼	0	0	9¾	0	0	9¼
9	0	0	9¼	0	0	8¾	0	0	8¼
8	0	0	8¼	0	0	7¾	0	0	7⅜
7	0	0	7¼	0	0	6¾	0	0	6⅜
6	0	0	6⅛	0	0	5⅞	0	0	5½
5	0	0	5⅛	0	0	4⅞	0	0	4⅝
4	0	0	4⅛	0	0	3⅞	0	0	3⅜
3	0	0	3⅛	0	0	2⅞	0	0	2¾
2	0	0	2	0	0	2	0	0	1⅞
1 dwt	0	0	1	0	0	1	0	0	0⅞
½	0	0	½	0	0	½	0	0	0½

	viij dno			vij dno ℔.			vij dno		
oz.	oz.	dwt	gr.	oz.	dwt	gr	oz.	dwt	gr.
500	18	0	$8\frac{5}{8}$	16	17	$20\frac{1}{8}$	15	15	$7\frac{5}{8}$
400	14	8	$6\frac{7}{8}$	13	10	$6\frac{1}{2}$	12	12	6
300	10	16	$5\frac{1}{4}$	10	2	$16\frac{7}{8}$	9	9	$4\frac{1}{2}$
200	7	4	$3\frac{1}{2}$	6	15	$3\frac{1}{4}$	6	6	3
100	3	12	$1\frac{3}{4}$	3	7	$13\frac{1}{4}$	3	3	$1\frac{1}{2}$
90	3	4	$20\frac{1}{2}$	3	0	$19\frac{1}{2}$	2	16	$18\frac{1}{8}$
80	2	17	$15\frac{3}{4}$	2	14	$1\frac{1}{4}$	2	10	$10\frac{3}{4}$
70	2	10	$10\frac{3}{4}$	2	7	$7\frac{1}{8}$	2	4	$3\frac{1}{2}$
60	2	3	$5\frac{7}{8}$	2	0	13	1	17	$20\frac{1}{8}$
50	1	16	$0\frac{7}{8}$	1	13	$18\frac{7}{8}$	1	11	$12\frac{3}{4}$
40	1	8	$19\frac{7}{8}$	1	7	$0\frac{5}{8}$	1	5	$5\frac{3}{8}$
30	1	1	$14\frac{1}{2}$	1	0	$6\frac{1}{2}$	0	18	22
20	0	14	$9\frac{7}{8}$	0	13	$12\frac{3}{8}$	0	12	$14\frac{3}{4}$
10	0	7	5	0	6	$18\frac{1}{8}$	0	6	$7\frac{3}{8}$
9	0	6	$11\frac{5}{8}$	0	6	2	0	5	$16\frac{1}{4}$
8	0	5	$18\frac{3}{8}$	0	5	$9\frac{3}{4}$	0	5	$1\frac{1}{8}$
7	0	5	$1\frac{1}{8}$	0	4	$17\frac{1}{2}$	0	4	10
6	0	4	$7\frac{3}{4}$	0	4	$1\frac{1}{4}$	0	3	$18\frac{3}{4}$
5	0	3	$14\frac{1}{8}$	0	3	$9\frac{1}{8}$	0	3	$3\frac{5}{8}$
4	0	2	$21\frac{1}{8}$	0	2	$16\frac{7}{8}$	0	2	$12\frac{1}{2}$
3	0	2	$3\frac{7}{8}$	0	2	$0\frac{5}{8}$	0	1	$21\frac{3}{8}$
2	0	1	$10\frac{5}{8}$	0	1	$8\frac{5}{8}$	0	1	$6\frac{1}{4}$
1 oz.	0	0	$17\frac{1}{4}$	0	0	$16\frac{1}{4}$	0	0	$15\frac{1}{8}$
19	0	0	$16\frac{3}{8}$	0	0	$15\frac{3}{8}$	0	0	$14\frac{3}{8}$
17	0	0	$14\frac{7}{8}$	0	0	$13\frac{7}{8}$	0	0	$12\frac{7}{8}$
13	0	0	$11\frac{1}{4}$	0	0	$10\frac{1}{2}$	0	0	$9\frac{5}{8}$
11	0	0	$9\frac{1}{2}$	0	0	$8\frac{7}{8}$	0	0	$8\frac{3}{8}$
10	0	0	$8\frac{5}{8}$	0	0	$8\frac{1}{8}$	0	0	$7\frac{5}{8}$
9	0	0	$7\frac{3}{4}$	0	0	$7\frac{1}{4}$	0	0	$6\frac{3}{4}$
8	0	0	$6\frac{7}{8}$	0	0	$6\frac{1}{2}$	0	0	6
7	0	0	6	0	0	$5\frac{5}{8}$	0	0	$5\frac{1}{4}$
6	0	0	$5\frac{1}{8}$	0	0	$4\frac{7}{8}$	0	0	$4\frac{1}{2}$
5	0	0	$4\frac{3}{8}$	0	0	4	0	0	$3\frac{3}{4}$
4	0	0	$3\frac{1}{2}$	0	0	$3\frac{1}{4}$	0	0	3
3	0	0	$2\frac{5}{8}$	0	0	$2\frac{3}{8}$	0	0	$2\frac{1}{4}$
2	0	0	$1\frac{3}{4}$	0	0	$1\frac{5}{8}$	0	0	$1\frac{1}{2}$
1 dwt.	0	0	$0\frac{7}{8}$	0	0	$0\frac{3}{4}$	0	0	$0\frac{3}{4}$
$\frac{1}{2}$	0	0	$0\frac{3}{8}$	0	0	$0\frac{3}{8}$	0	0	$0\frac{2}{8}$

	vj d^{ts} ob.			vj d^{ts}.			v d^{ts} ob.		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	14	12	19	13	10	6	12	7	18
400	11	14	5 5/8	10	16	5 1/4	9	18	4 3/4
300	8	15	16 1/4	8	2	3 7/8	7	8	15 5/8
200	5	17	27 7/8	5	8	2 5/8	4	19	2 3/8
100	2	18	13 3/8	2	14	1 1/4	2	9	13 1/4
90	2	12	16 7/8	2	8	15 1/2	1	4	14 1/4
80	2	6	20 3/8	2	3	5 7/8	1	19	15 3/8
70	2	0	23 3/4	1	17	20	1	14	16 3/8
60	1	15	3 1/4	1	12	10 3/8	1	9	17 1/2
50	1	9	6 3/4	1	7	0 5/8	1	4	18 5/8
40	1	3	10 1/8	1	1	14 7/8	0	19	19 5/8
30	0	17	13 5/8	0	16	5 1/8	0	14	20 3/4
20	0	11	17 1/8	0	10	19 1/2	0	9	21 7/8
10	0	5	20 1/2	0	5	9 3/4	0	4	22 7/8
9	0	5	6 1/2	0	4	20 3/4	0	4	11
8	0	4	16 3/8	0	4	7 3/4	0	3	23 1/8
7	0	4	2 3/8	0	3	18 7/8	0	3	11 1/4
6	0	3	12 3/8	0	3	5 7/8	0	2	23 3/8
5	0	2	22 1/4	0	2	16 7/8	0	2	11 1/2
4	0	2	8 1/4	0	2	3 7/8	0	1	23 5/8
3	0	1	18 1/8	0	1	14 7/8	0	1	11 5/8
2	0	1	4 1/8	0	1	2	0	0	23 3/4
1 oz.	0	0	14	0	0	13	0	0	11 7/8
19	0	0	13 3/8	0	0	12 3/8	0	0	11 1/4
17	0	0	12	0	0	11	0	0	10
13	0	0	9 1/8	0	0	8 3/8	0	0	7 3/4
11	0	0	7 3/6	0	0	7 1/8	0	0	6 1/2
10	0	0	7	0	0	6 1/2	0	0	6
9	0	0	6 3/8	0	0	5 7/8	0	0	5 3/8
8	0	0	5 5/8	0	0	5 1/4	0	0	4 3/4
7	0	0	4 7/8	0	0	4 1/2	0	0	4 1/8
6	0	0	4 1/4	0	0	3 7/8	0	0	3 5/8
5	0	0	3 1/2	0	0	3 1/4	0	0	3
4	0	0	2 3/4	0	0	2 5/8	0	0	2 3/8
3	0	0	2 1/8	0	0	2	0	0	1 3/4
2	0	0	1 3/8	0	0	1 1/4	0	0	1 1/4
1 dwt.	0	0	0 3/4	0	0	0 5/8	0	0	0 5/8
1/2	0	0	0 3/8	0	0	0 3/8	0	0	0 1/4

	[illegible]			[illegible]			[illegible]		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dw	gr.
500	11	5	5 3/8	10	2	16 7/8	9	0	4 3/8
400	9	0	4 3/8	8	2	3 7/8	7	4	3 1/2
300	6	15	3 1/4	6	1	14 7/8	5	8	2 5/8
200	4	10	2 1/8	4	1	2	3	12	1 3/4
100	2	5	1 1/8	2	0	13	1	16	0 7/8
90	2	0	13	1	16	11 5/8	1	12	10 3/8
80	1	16	0 7/8	1	12	10 3/8	1	8	19 7/8
70	1	11	12 3/4	1	8	9 1/8	1	5	5 3/8
60	1	7	0 5/8	1	4	7 3/4	1	1	14 7/8
50	1	2	12 1/2	1	0	6 1/2	0	18	0 3/8
40	0	18	0 3/8	0	16	5 1/4	0	14	10
30	0	13	12 3/8	0	12	3 7/8	0	10	19 1/2
20	0	9	0 1/4	0	8	2 5/8	0	7	5
10	0	4	12 1/8	0	4	1 1/4	0	3	14 1/2
9	0	4	1 1/4	0	3	15 1/2	0	3	5 7/8
8	0	3	14 1/2	0	3	5 7/8	0	2	21 1/8
7	0	3	3 5/8	0	2	20 1/8	0	2	12 1/2
6	0	2	16 7/8	0	2	10 3/8	0	2	3 7/8
5	0	2	6	0	2	0 5/8	0	1	19 1/4
4	0	1	19 1/4	0	1	14 7/8	0	1	10 5/8
3	0	1	8 3/8	0	1	5 1/8	0	1	2
2	0	0	21 5/8	0	0	19 1/2	0	0	17 1/4
1 oz.	0	0	10 3/4	0	0	9 3/4	0	0	8 5/8
19	0	0	10 1/4	0	0	9 1/4	0	0	8 1/4
17	0	0	9 1/8	0	0	8 1/4	0	0	7 3/8
13	0	0	7	0	0	6 3/8	0	0	5 5/8
11	0	0	6	0	0	5 3/8	0	0	4 3/4
10	0	0	5 3/8	0	0	4 7/8	0	0	4 3/8
9	0	0	4 7/8	0	0	4 3/8	0	0	3 7/8
8	0	0	4 3/8	0	0	3 7/8	0	0	3 1/2
7	0	0	3 3/4	0	0	3 3/8	0	0	3
6	0	0	3 1/4	0	0	2 7/8	0	0	2 5/8
5	0	0	2 3/4	0	0	2 3/8	0	0	2 1/8
4	0	0	2 1/8	0	0	2	0	0	1 3/4
3	0	0	1 5/8	0	0	1 1/2	0	0	1 1/4
2	0	0	1 1/8	0	0	1	0	0	0 7/8
1 dwt.	0	0	0 1/2	0	0	0 1/2	0	0	0 5/8
1/2	0	0	0 1/4	0	0	0 1/4	0	0	0 1/4

	iij dwt. ob.			iij dwt.			ij dwt. ob.		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	7	17	15¾	6	15	3¼	5	12	14¾
400	6	6	3	5	8	2⅝	4	10	2¼
300	4	14	14¼	4	1	2	3	7	13⅝
200	3	3	1½	2	14	1¼	2	5	1⅛
100	1	11	12¾	1	7	0⅝	1	2	12⅛
90	1	8	9⅛	1	4	7⅛	1	0	6⅝
80	1	5	5⅜	1	1	14⅞	0	18	0⅝
70	1	2	1¾	0	18	22	0	15	18½
60	0	18	22	0	16	5¼	0	13	12⅜
50	0	15	18⅜	0	13	12⅜	0	11	6¼
40	0	12	14¾	0	10	19½	0	9	0¼
30	0	9	11	0	8	2⅝	0	6	18⅛
20	0	6	7⅜	0	5	9¾	0	4	12⅛
10	0	3	3⅝	0	2	16⅞	0	2	6⅛
9	0	2	20⅛	0	2	10⅜	0	2	0⅝
8	0	2	12½	0	2	3⅞	0	1	19¼
7	0	2	5	0	1	21⅜	0	1	13⅞
6	0	1	21⅜	0	1	14⅞	0	1	8½
5	0	1	13⅞	0	1	8⅜	0	1	3
4	0	1	6¼	0	1	2	0	0	21⅝
3	0	0	22¾	0	0	19½	0	0	16¼
2	0	0	15⅛	0	0	13	0	0	10⅞
1 oz.	0	0	7⅝	0	0	6½	0	0	5⅜
19	0	0	7¼	0	0	6⅛	0	0	5⅛
17	0	0	6⅜	0	0	5½	0	0	4⅝
13	0	0	4⅞	0	0	4¼	0	0	3½
11	0	0	4⅛	0	0	3⅝	0	0	3
10	0	0	3⅞	0	0	3¼	0	0	2¾
9	0	0	3⅜	0	0	2⅞	0	0	2⅝
8	0	0	3	0	0	2⅝	0	0	2⅛
7	0	0	2⅝	0	0	2¼	0	0	1⅞
6	0	0	2¼	0	0	2	0	0	1⅝
5	0	0	1⅞	0	0	1⅝	0	0	1⅜
4	0	0	1½	0	0	1¼	0	0	1⅛
3	0	0	1⅛	0	0	1	0	0	0¾
2	0	0	0¾	0	0	0⅝	0	0	0½
1 dwt.	0	0	0⅝	0	0	0⅜	0	0	0¼
½	0	0	0¼	0	0	0⅛	0	0	0⅛

	ij dwts			j dwts ob.			j dwts.		
oz	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	4	10	2⅛	3	7	13⅝	2	5	1⅛
400	3	12	1¾	2	14	1¼	1	16	0⅞
300	2	14	1¼	2	0	13	1	7	0⅝
200	1	16	0⅞	1	7	0⅝	0	18	0⅜
100	0	18	0⅜	0	13	12⅜	0	9	0¼
90	0	16	5⅛	0	12	3⅞	0	8	0¼
80	0	14	9⅞	0	10	19½	0	7	5
0	0	12	14⅝	0	9	11	0	6	5
60	0	0	19½	0	8	2⅝	0	5	4⅞
50	0	9	0¼	0	6	18⅛	0	4	12⅛
40	0	7	4⅞	0	5	9¾	0	3	14½
30	0	5	9¾	0	4	1¼	0	2	14½
20	0	3	14½	0	2	16⅞	0	1	19¼
10	0	1	19¼	0	1	8⅜	0	0	21⅝
9	0	1	14⅞	0	1	5¼	0	0	19½
8	0	1	10⅝	0	1	2	0	0	17¼
7	0	1	6¼	0	0	22¾	0	0	15⅛
6	0	1	1⅞	0	0	19½	0	0	13
5	0	0	21⅝	0	0	16¼	0	0	10¾
4	0	0	17¼	0	0	13	0	0	8⅝
3	0	0	13	0	0	9¾	0	0	6½
2	0	0	8⅝	0	0	6½	0	0	4⅜
1 oz.	0	0	4⅜	0	0	3¼	0	0	2⅛
19	0	0	4⅛	0	0	3⅛	0	0	2
17	0	0	3⅝	0	0	2¾	0	0	1⅞
13	0	0	2¾	0	0	2⅛	0	0	1⅜
11	0	0	2⅜	0	0	1¾	0	0	1¼
10	0	0	2⅛	0	0	1⅝	0	0	1⅛
9	0	0	2	0	0	1½	0	0	1
8	0	0	1¾	0	0	1¼	0	0	0⅞
7	0	0	1½	0	0	1⅛	0	0	0¾
6	0	0	1¼	0	0	1	0	0	0⅝
5	0	0	1⅛	0	0	0¾	0	0	0½
4	0	0	0⅞	0	0	0⅝	0	0	0⅜
3	0	0	0⅝	0	0	0½	0	0	0⅜
2	0	0	0⅜	0	0	0⅜	0	0	0¼
1 dwt.	0	0	0¼	0	0	0⅛	0	0	0⅛
½	0	0	0⅛	0	0	0⅛	0	0	0

ß			
oz.	oz	dt.	gr.
500	1	2	12½
400	0	18	0⅜
300	0	13	12⅜
200	0	9	0¼
100	0	4	12⅛
90	0	4	1¼
80	0	3	14½
70	0	3	3⅝
60	0	2	16⅞
50	0	2	6
40	0	1	19¼
30	0	1	8⅜
20	0	0	21⅝
10	0	0	10¾
9	0	0	9¾
8	0	0	8⅝
7	0	0	7⅝
6	0	0	6½
5	0	0	5⅜
4	0	0	4⅜
3	0	0	3¼
2	0	0	2⅛
1 oz.	0	0	1
19	0	0	0⅞
17	0	0	0⅞
13	0	0	0⅝
11	0	0	0½
10	0	0	0½
9	0	0	0½
8	0	0	0⅜
7	0	0	0⅜
6	0	0	0¼
5	0	0	0¼
4	0	0	0¼
3	0	0	0⅛
2	0	0	0⅛
1 dt.	0	0	0
½	0	0	0

oz	dwt	multiply	oz	dwt	multiply
j	ij ß	7½ by 3	iij	vj	11 by 6
j	ij ß	2½ by 9	iij	vj ß	9½ by 7
j	iiii ß	3½ by 7	iij	vij ß	13½ by 5
j	v ß	8½ by 3	iij	viij	17 by 4
j	vij ß	5½ by 5	iij	ix	11½ by 6
j	viij ß	9½ by 3	iij	x	10 by 7
j	xj ß	10½ by 3	iij	xij	12 by 6
j	xij ß	6½ by 5	iij	xij ß	14½ by 5
j	xiiij ß	11½ by 3	iij	xiiij	18½ by 4
j	xvij ß	12½ by 3	iij	xv	15 by 5
ij	ß	13½ by 3	iij	xvj	19 by 4
ij	ij	10½ by 4	iij	xvj ß	8½ by 9
ij	ij ß	8½ by 5	iij	xvij	11 by 7
ij	iij ß	14½ by 3	iij	xvij ß	15½ by 5
ij	iiij	11 by 4	iij	xviij	19½ by 4
ij	v	11 by 5	iiij	j	9 by 9
ij	v ß	6½ by 7	iiij	ij ß	16½ by 5
ij	vj ß	15½ by 3	iiij	iiij	12 by 7
ij	vij ß	9½ by 5	iiij	v	17 by 5
ij	viij	12 by 4	iiij	v ß	9½ by 9
ij	ix	7 by 7	iiij	vij ß	12½ by 7
ij	ix ß	16½ by 3	iiij	viij	11 by 8
ij	x	12½ by 4	iiij	x	18 by 5
ij	xj	17 by 3	iiij	xi	13 by 7
ij	xij ß	17½ by 3	iiij	xij	11½ by 8
ij	xiiij	18 by 3	iiij	xij ß	18½ by 5
ij	xv	11 by 5	iiij	xiiij ß	13½ by 7
ij	xv ß	18½ by 3	iiij	xv	19 by 5
ij	xvj	14 by 4	iiij	xvij ß	19½ by 5
ij	xvij	19 by 3	iiij	xviij	14 by 7
ij	xviij	14½ by 4	iiij	xix	11 by 9
ij	xviij ß	19½ by 3	v	ij	17 by 6
ij	xix ß	8½ by 7	v	iij ß	11½ by 9
iij	ij	15½ by 4	v	iiij	13 by 8
iij	ij ß	12½ by 5	v	v	17½ by 6
iij	iij	9 by 7	v	viij	18 by 6
iij	iiij	16 by 4	v	viij ß	18½ by 7
iij	v	13 by 5	v	xj	18½ by 6

Uſe of the SILVER TABLES.

The fineneſs from one ounce to an half penny weight ſtands at the top of the page, and the weight from 500 oz. to half a pennyweight on the ſide; and where they meet is found the quantity of ſtandard; as for example, againſt 400 oz. and under 14 dwt. is found 25 oz. 4 dwt. 12⅛ gr. and againſt 70 oz. and under 10½ dwt. ſtands 3 oz. 5 dwt. 5¼ gr.

The ſtandard contained in any other fineneſs between 1 oz. and 2 oz. (except odd ½ dwts.) is found by doubling thoſe in the table between 10½ dwt. and 19½ dwt.. thus the ſtandard in 90 oz. of 1 oz. 19 dwt. fine, is found to be 15 oz. 16dwt. 5¼gr. by doubling that under 19½ dwt. and that in 90 oz. of 1 oz. 1 dwt. is 8 oz. 8 dwt. 6½ gr. by doubling 10½ dwt. we have likewiſe added two columns at the end of the tables, of the ſtandard of ſeveral fineneſſes which are to be found by multiplying thoſe in the table by 3, 4, 5,&c. as 1 oz. 2½ dwt. is had by multiplying 7½dwt. by 3, and 2 oz.17 dwt. is found to be produced from 3 times 19 dwt. and ſo of the others.

But the ſtandard contained in any ingot, of any fineneſs, may be found from that of 1 oz. viz. by multiplying it by the number of oz. for the ounces, and dividing it by the aliquot parts of an ounce for the dwts. thus in 300 oz. of 3 oz. 12½ dwt.

there is 97 oz. 19 dwt. 11⅛ gr. of ſtandard, and in 80 oz. of 4 oz. 17 dwt. fine there is 34 oz. 19 dwt. 2¼ gr. as follows

	oz.	dwt.	gr.
	27	0	13
			3
3 oz.	81	1	15
10 dwt.	13	10	6½
2½ dwt.	3	7	13⅝
	97	19	11⅛

	oz.	dwt.	gr.
	7	4	3½
			4
4 oz.	28	16	14
10 dwt.	3	12	1¾
5 dwt.	1	16	0⅞
2 dwt.		14	10
	34	19	2⅝

The examples above are from weights found in the table, but thoſe which are not in the table, if under 600 oz. may be collected out of it; thus, thoſe of 598 oz. 13 dwt. of 13½ dwt. fine, and 183 oz. 2 dwt. of 7½ fine, are as follows:

	oz.	dwt.	gr.
500 oz.	29	5	14
90 oz.	5	5	9¾
8 oz	0	9	8⅞
13 dwt.	0	0	18¼
	35	1	2⅞ ſtandard

	oz.	dwt.	gr.
100 oz.	3	7	13¼
80 oz.	2	14	1¼
3 oz.	0	2	0⅝
2 dwt.	0	0	1⅝
	6	3	16¾ ſtan.

If the fineneſs is between 1 oz. and 2 oz. collect the weight from half the fineneſs, and then double it, as if it is 1 oz. 11 dwt. collect it from 15½ dwt. if 1 oz. 17 dwt. from 18½ dwt. and for any of thoſe in the two laſt columns, it muſt be from the fineneſs againſt it, and then multiplied by the number againſt it, as 2 oz. 9 dwt. from

7 dwt. and then multiplied by 7, and that of 4 oz. 5 dwt. from 17 dwt. and then multiplied by 5.

In making uſe of theſe tables, it is generally the betterneſs or worſeneſs of any ingot, which is to be taken out from them, according to the report; and when better, it is added to the groſs weight, but if worſe ſubſtracted from it, which gives the quantity of ſtandard contained in it.

Thus in the former examples, if the fineneſſes there given are put for the relative ones, inſtead of the abſolute ones, the anſwer will be as follows:

	oz.	dwt.	gr.	
To	400	0	0	Br. xiiij dwt.
Add	28	4	12⅛	
	428	4	12⅛	ſtandard
From	70	0	0	Wo. x dwt. ob.
Take	3	5	5¼	
	66	14	18¾	ſtandard
Alſo from	300	0	0	Wo. iij oz. xij dwt. ob.
take	97	19	11⅛	
	202	0	12⅞	ſtandard
From	80	0	0	Wo. iiij oz. xvij dwt.
Take	34	19	2⅝	
	45	0	21⅜	ſtandard
To	598	13	0	Br. xiij dwt. ob.
Add	35	1	2⅞	
	633	14	2⅞	ſtandard
To	183	2	0	Br. vij dwt. ob.
Add	6	3	17	
	189	5	17	ſtandard

TABLES

TABLES

OF THE

QUANTITY

OF

Standard GOLD,

Contained in any Ingot under
the Weight of 500 Ounces;

AND

From two Carats to one Quarter
Carat Grain in Fineneſs

	ij car.			j car. iij¾ gr			j car. iij½ gr		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	45	9	2⅛	44	0	16⅜	42	12	6½
400	36	7	7½	35	4	13⅛	34	1	9⅜
300	27	5	11⅞	26	8	9⅞	25	11	8¾
200	18	3	5¾	17	12	6½	17	0	20⅛
100	9	1	19⅝	8	16	3¼	8	10	10⅞
90	8	3	14½	7	18	12½	7	13	9⅛
80	7	5	10⅞	7	0	21⅞	6	16	8¾
70	6	7	6½	6	3	7⅛	5	18	7⅝
60	5	9	2⅛	5	5	16⅜	5	2	6½
50	4	10	21⅛	4	8	1⅝	4	5	5½
40	3	12	17½	3	10	10⅞	3	8	4¾
30	2	14	13	2	12	20⅛	2	11	3¼
20	1	16	8¾	1	15	5½	1	14	2⅛
10	0	18	4⅜	0	17	14¾	0	17	1
9	0	16	8¾	0	15	20½	0	15	8⅛
8	0	14	13	0	14	2⅛	0	13	15⅜
7	0	12	17⅜	0	12	7⅞	0	11	22⅜
6	0	10	21¾	0	10	13⅝	0	10	5½
5	0	9	2⅛	0	8	19⅜	0	8	12½
4	0	7	6⅛	0	7	1⅛	0	6	19⅝
3	0	5	10¼	0	5	6⅞	0	5	2¾
2	9	3	15⅝	0	3	12½	0	3	9¾
1 oz.	0	1	19⅞	0	1	18¼	0	1	16⅞
19	0	1	17½	0	1	16⅛	0	1	14⅞
17	0	1	15¼	0	1	11⅞	0	1	10¾
13	0	1	4¼	0	1	3½	0	1	2⅝
11	0	1	0	0	0	23¼	0	0	22½
10	0	0	21⅞	0	0	21⅛	0	0	20½
9	0	0	19⅝	0	0	19	0	0	18⅜
8	0	0	17½	0	0	16⅞	0	0	16⅜
7	0	0	15¼	0	0	14¾	0	0	14⅜
6	0	0	13⅛	0	0	12⅝	0	0	12¼
5	0	0	10⅞	0	0	10⅝	0	0	10¼
4	0	0	8¾	0	0	8½	0	0	8⅛
3	0	0	6½	0	0	6⅜	0	0	6⅛
2	0	0	4⅝	0	0	4¼	0	0	4⅛
1 dwt.	0	0	2⅛	0	0	2⅛	0	0	2
½	0	0	1⅛	0	0	1	0	0	1

	j car iij¼ gr			j car iij gr			j car ij¾ gr		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	41	3	20¾	39	15	10⅞	38	7	1⅛
400	32	19	2⅛	31	16	3⅝	30	13	15¼
300	24	14	7⅝	23	17	2¾	23	0	5½
200	16	9	13⅛	15	18	1⅞	15	6	19⅝
100	8	4	18½	7	19	0⅞	7	13	9⅞
90	7	8	7⅛	7	3	3½	6	18	1⅝
80	6	11	19⅝	6	7	5⅞	6	2	17½
70	5	15	8⅛	5	11	8	5	7	9¼
60	4	18	20¾	4	15	10⅛	4	12	1⅛
50	4	2	9¼	3	19	12½	3	16	16⅞
40	3	5	21⅞	3	3	16	3	1	8¾
30	2	9	10⅜	2	7	17⅛	2	6	0½
20	1	12	23	1	11	19½	1	10	16⅜
10	0	16	11½	0	15	21¾	0	15	8⅛
9	0	14	19⅞	0	14	7⅝	0	13	16⅜
8	0	13	4⅜	0	12	17⅜	0	12	6½
7	0	11	12⅞	0	11	3¼	0	10	17¾
6	0	9	21¼	0	9	13	0	9	4⅞
5	0	8	5¾	0	7	22⅞	0	7	16⅛
4	0	6	14¼	0	6	8¾	0	6	3¼
3	0	4	22⅝	0	4	18½	0	4	14½
2	0	3	7⅛	0	3	4⅜	0	3	1⅝
1 oz.	0	1	15½	0	1	14⅞	0	1	12⅞
19	0	1	13½	0	1	12¼	0	1	11
17	0	1	11⅝	0	1	8½	0	1	7¼
13	0	1	1¾	0	1	0¾	0	0	23⅞
11	0	0	21¾	0	0	21	0	0	20¼
10	0	0	19¾	0	0	19⅛	0	0	18⅜
9	0	0	17¾	0	0	17⅛	0	0	16⅝
8	0	0	15⅞	0	0	15¼	0	0	14¾
7	0	0	13⅞	0	0	13⅜	0	0	12⅞
6	0	0	11⅞	0	0	11⅛	0	0	11
5	0	0	9⅞	0	0	9½	0	0	9¼
4	0	0	7⅞	0	0	7⅝	0	0	7⅜
3	0	0	5⅞	0	0	5¾	0	0	5½
2	0	0	4	0	0	3⅞	0	0	3⅝
1 dwt.	0	0	2	0	0	1⅞	0	0	1⅞
½	0	0	1	0	0	1	0	0	0⅞

	j car. ij½ gr			j car. ij¼ gr			j car. ij gr.		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	36	18	14¼	35	10	5½	34	1	19⅝
400	29	10	21⅞	28	8	4⅜	27	5	10⅞
300	22	3	4⅜	21	6	3¼	20	9	2⅛
200	14	15	10⅞	14	4	2⅛	13	12	17½
100	7	7	17½	7	2	1⅛	6	16	8¾
90	6	12	22⅞	6	7	20⅛	6	2	17½
80	5	18	4⅜	5	13	15¼	5	9	2⅛
70	5	3	9⅛	4	19	10⅜	4	15	10⅞
60	4	8	15¼	4	5	5½	4	1	19⅝
50	3	13	20¾	3	11	0½	3	8	4⅜
40	2	19	2⅛	2	16	19⅝	2	14	13⅛
30	2	4	7⅝	2	2	14¾	2	0	21⅞
20	1	9	13⅛	1	8	9⅞	1	7	6½
10	0	14	18½	0	14	4⅞	0	13	15¼
9	0	13	7⅛	0	12	18⅞	0	12	6½
8	0	11	19⅝	0	11	8¾	0	10	21⅛
7	0	10	8⅛	0	9	22⅝	0	9	13⅛
6	0	8	20¾	0	8	12½	0	8	4⅜
5	0	7	9¼	0	7	2½	0	6	19⅝
4	0	5	21⅞	0	5	16⅜	0	5	10⅞
3	0	4	10⅜	0	4	6¼	0	4	2⅛
2	0	2	22⅞	0	2	20⅛	0	2	17½
1 oz.	0	1	11½	0	1	10⅛	0	1	8¾
19	0	1	9⅝	0	1	8⅜	0	1	7⅛
17	0	1	6⅛	0	1	5	0	1	3⅛
13	0	0	23	0	0	22⅛	0	0	21¼
11	0	0	19½	0	0	18¾	0	0	18
10	0	0	17¾	0	0	17	0	0	16⅜
9	0	0	16	0	0	15⅜	0	0	14¾
8	0	0	14⅛	0	0	13⅝	0	0	13⅛
7	0	0	12⅜	0	0	11⅞	0	0	11½
6	0	0	10⅝	0	0	10¼	0	0	9⅞
5	0	0	8⅞	0	0	8½	0	0	8⅛
4	0	0	7⅛	0	0	6⅞	0	0	6½
3	0	0	5⅜	0	0	5⅛	0	0	4⅞
2	0	0	3½	0	0	3⅜	0	0	3¼
1 dwt.	0	0	1⅞	0	0	1¾	0	0	1⅝
½	0	0	0⅞	0	0	0⅞	0	0	0⅞

	j car j¾ gr.			i car j½ gr			j car j¼ gr.		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	32	13	9⅝	31	5	0	29	16	14⅛
400	20	2	17¼	25	0	0	23	17	6½
300	19	12	1	18	15	0	17	17	22⅞
200	13	1	8⅝	12	10	0	11	18	15¼
100	6	10	16⅜	6	5	0	5	19	7⅝
90	5	17	14¾	5	12	12	5	7	9¼
80	5	4	13	5	0	0	4	15	10⅞
70	4	11	11½	4	7	12	4	3	12½
60	3	18	9⅞	3	15	0	3	11	14⅛
50	3	5	8⅛	3	2	12	2	19	15⅞
40	2	12	6½	2	10	0	2	7	17½
30	1	19	4⅞	1	17	12	1	15	19⅛
20	1	6	3¼	1	5	0	1	3	20¾
10	0	13	1⅝	0	12	12	0	11	22⅜
9	0	11	18⅜	0	11	6	0	10	17¾
8	0	10	10⅞	0	10	0	0	9	13⅞
7	0	9	3½	0	8	18	0	8	8½
6	0	7	20¼	0	7	12	0	7	3⅞
5	0	6	12¾	0	6	6	0	5	23⅛
4	0	5	5⅜	0	5	0	0	4	18½
3	0	3	22⅛	0	3	18	0	3	13⅞
2	0	2	14⅝	0	2	12	0	2	9¼
1 oz.	0	1	7⅜	0	1	6	0	1	4⅝
19	0	1	5¾	0	1	4½	0	1	3¼
17	0	1	2⅝	0	1	1½	0	1	0⅜
13	0	0	20⅜	0	0	19½	0	0	18¾
11	0	0	17¼	0	0	16½	0	0	15¾
10	0	0	15⅝	0	0	15	0	0	14⅜
9	0	0	14⅛	0	0	13½	0	0	12⅞
8	0	0	12½	0	0	12	0	0	11½
7	0	0	11	0	0	10½	0	0	10
6	0	0	9⅜	0	0	9	0	0	8⅝
5	0	0	7⅞	0	0	7½	0	0	7⅛
4	0	0	5¾	0	0	6	0	0	5¾
3	0	0	4¾	0	0	4½	0	0	4¼
2	0	0	3⅛	0	0	3	0	0	2⅞
1 dwt.	0	0	1⅝	0	0	1½	0	0	1⅜
½	0	0	0¾	0	0	0¾	0	0	0¾

	j car j gr			j car ¾ gr.			j car ½ gr.		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr
500	28	8	4⅜	26	19	18½	’5	11	9¾
400	22	14	14¼	21	11	19⅝	20	9	2⅛
300	17	0	22⅝	16	3	20¾	5	6	19⅝
200	11	7	7⅛	10	15	21⅞	10	4	13⅛
100	5	13	15⅝	5	7	22⅞	5	2	6½
90	5	2	6¾	4	17	3⅞	4	12	1⅛
80	4	10	22	4	6	8¾	4	1	19¾
70	3	19	13¼	3	15	13⅝	3	11	14⅛
60	3	8	4½	3	4	18½	3	1	8¾
50	2	16	19¾	2	13	11½	2	11	3¼
40	2	5	11	2	3	4⅜	2	0	21⅞
30	1	14	2¼	1	12	9¼	1	10	16⅜
20	1	2	17½	1	1	14⅛	1	0	10⅞
10	0	11	8¾	0	10	19⅛	0	10	5½
9	0	10	2½	0	9	17⅛	0	9	4⅞
8	0	9	2¼	0	8	15¼	0	8	4⅜
7	0	7	23	0	7	13⅜	0	7	3⅞
6	0	6	19¾	0	6	11½	0	6	3¼
5	0	5	16⅜	0	5	9½	0	5	2¾
4	0	4	13⅛	0	4	7⅝	0	4	2⅛
3	0	3	9⅞	0	3	5¾	0	3	1⅛
2	0	2	6½	0	2	3⅞	0	2	1⅛
1 oz.	0	1	3¼	0	1	1⅞	0	1	0½
19	0	1	1⅞	0	1	0⅝	0	0	23⅜
17	0	0	23¼	0	0	22	0	0	20⅞
13	0	0	17¾	0	0	16⅞	0	0	16
11	0	0	15	0	0	14¼	0	0	13½
10	0	0	13⅝	0	0	13	0	0	12¼
9	0	0	12¼	0	0	11⅝	0	0	11
8	0	0	10⅞	0	0	10⅜	0	0	9⅞
7	0	0	9½	0	0	9⅛	0	0	8⅝
6	0	0	8⅛	0	0	7¾	0	0	7⅜
5	0	0	6⅞	0	0	6½	0	0	6⅛
4	0	0	5½	0	0	5⅛	0	0	4⅞
3	0	0	4⅛	0	0	3⅞	0	0	3⅝
2	0	0	2¾	0	0	2⅜	0	0	2½
dt.	0	0	1⅜	0	0	1¼	0	0	1¼
½	0	0	0¾	0	0	0⅝	0	0	0⅝

	j car ¼ gr			j car.			iij ¾ gr		
oz.	oz.	dwt	gr	oz.	dwt	gr.	oz.	dwt	gr.
500	24	2	22⅞	22	14	13⅛	21	6	3¼
400	19	6	8¾	8	3	15¼	17	0	21¾
300	14	9	18½	13	12	17½	12	15	16⅜
200	9	13	4⅜	9	1	19⅝	8	10	10⅞
100	4	16	14⅛	4	10	21⅞	3	5	5½
90	4	6	22⅜	4	1	19¼	3	16	16⅞
80	3	17	6½	3	12	17½	3	8	4⅜
70	3	7	14¾	3	3	15¼	2	19	15¾
60	2	17	22⅞	2	14	13⅛	2	11	3¼
50	2	8	7⅛	2	5	10⅞	2	2	14¾
40	1	18	15¼	1	16	8¾	1	14	2⅛
30	1	8	23½	1	7	6½	1	5	13⅝
20	0	19	7⅝	0	18	4⅜	0	17	1⅛
10	0	9	15⅞	0	9	2½	0	8	12½
9	0	8	16⅝	0	8	4⅜	0	7	16⅞
8	0	7	17½	0	7	6½	0	6	19⅝
7	0	6	18⅛	0	6	8¾	0	5	23⅛
6	0	5	18⅞	0	5	10⅞	0	5	2¾
5	0	4	19⅞	0	4	13⅛	0	4	6¼
4	0	3	20¾	0	3	15¼	0	3	9¾
3	0	2	21½	0	2	17½	0	2	13⅜
2	0	1	22⅜	0	1	19⅝	0	1	16⅞
1 oz.	0	0	23⅛	0	0	21⅞	0	0	20½
19	0	0	22	0	0	20¾	0	0	19⅜
17	0	0	19¾	0	0	18½	0	0	17⅜
13	0	0	15⅛	0	0	14⅛	0	0	13¼
11	0	0	12¾	0	0	12	0	0	11¼
10	0	0	11⅝	0	0	10⅞	0	0	10¼
9	0	0	10⅜	0	0	9¾	0	0	9¼
8	0	0	9¼	0	0	8¾	0	0	8⅛
7	0	0	8⅛	0	0	7⅝	0	0	7⅛
6	0	0	7	0	0	6½	0	0	6⅛
5	0	0	5¾	0	0	5½	0	0	5⅛
4	0	0	4⅝	0	0	4⅜	0	0	4⅛
3	0	0	3½	0	0	3¼	0	0	3⅛
2	0	0	2⅜	0	0	2⅛	0	0	2
1 dwt	0	0	1⅛	0	0	1⅛	0	0	1
½	0	0	0⅝	0	0	0½	0	0	0½

	iij ½ gr.			iij ¼ gr.			iij gr.		
oz.	oz	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	19	17	17½	18	9	7⅝	17	0	21⅞
400	18	18	1⅞	14	15	10⅞	13	12	17½
300	11	18	13⅜	11	1	14⅛	10	4	13⅛
200	7	19	0⅞	7	13	17½	6	16	8¾
100	3	19	12½	3	13	20¾	3	8	4⅜
90	3	11	13¾	3	6	11½	3	1	8¾
80	3	3	15	2	19	2⅕	2	14	13⅛
70	2	15	16	2	11	16⅞	2	7	17½
60	2	7	17⅛	2	4	7⅝	2	0	21⅞
50	1	19	18¼	1	16	22⅜	1	14	2⅛
40	1	11	19½	1	9	13⅛	1	7	6½
30	1	3	20½	1	2	3⅞	1	0	10⅞
20	0	15	21¾	0	14	18½	0	13	15¼
10	0	7	22⅞	0	7	9¼	0	6	19¾
9	0	7	3¾	0	6	15½	0	6	3¼
8	0	6	8¾	0	5	21⅞	0	5	10⅞
7	0	5	13⅝	0	5	4⅛	0	4	18½
6	0	4	18½	0	4	10⅜	0	4	2⅛
5	0	3	23⅜	0	3	16⅝	0	3	9⅞
4	0	3	4⅜	0	2	22⅞	0	2	17½
3	0	2	9¼	0	2	5⅛	0	2	1⅛
2	0	1	14⅛	0	1	11½	0	1	8¾
1 oz.	0	0	19⅛	0	0	17¾	0	0	16⅜
19	0	0	18⅛	0	0	16⅞	0	0	15½
17	0	0	16¼	0	0	15⅛	0	0	13⅞
13	0	0	12⅜	0	0	11½	0	0	10⅝
11	0	0	10½	0	0	9¾	0	0	9
10	0	0	9½	0	0	8⅞	0	0	8⅛
9	0	0	8⅝	0	0	8	0	0	7⅜
8	0	0	7⅝	0	0	7⅛	0	0	6½
7	0	0	6⅝	0	0	6¼	0	0	5¾
6	0	0	5¾	0	0	5⅜	0	0	4⅞
5	0	0	4¾	0	0	4⅜	0	0	4⅛
4	0	0	3⅞	0	0	3½	0	0	3¼
3	0	0	2⅞	0	0	2⅝	0	0	2½
2	0	0	1⅞	0	0	1¾	0	0	1⅝
1 dt.	0	0	1	0	0	0⅞	0	0	0⅞
½	0	0	0½	0	0	0½	0	0	0⅜

	ij ¾ gr.			ij ½ gr.			ij ¼ gr.		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	15	12	12	14	4	4⅞	12	15	16⅜
400	12	10	0	11	7	8¾	10	4	13⅛
300	9	7	12	8	10	12½	7	13	9⅞
200	6	5	0	5	13	16⅜	5	2	6½
100	3	2	12	2	6	20⅛	2	11	3¼
90	2	16	6	2	11	3¾	2	6	0½
80	2	10	0	2	5	11⅜	2	0	21⅞
70	2	3	18	1	19	18⅞	1	15	19⅛
60	1	17	12	1	14	2½	1	10	16⅜
50	1	11	6	1	8	10⅛	1	5	13⅝
40	1	5	0	1	2	17⅝	1	0	10⅞
30	0	18	18	0	17	1¼	0	15	8⅛
20	0	12	12	0	11	8⅞	0	10	5½
10	0	6	6	0	5	16⅜	0	5	2¾
9	0	5	15	0	5	2¾	0	4	14½
8	0	5	0	0	4	13⅛	0	4	2⅝
7	0	4	9	0	3	23½	0	3	13⅞
6	0	3	18	0	3	9⅞	0	3	1⅝
5	0	3	3	0	2	20¼	0	2	13⅜
4	0	2	12	0	2	6½	0	2	1⅛
3	0	1	21	0	1	16⅞	0	1	12⅞
2	0	1	6	0	1	3¼	0	1	0½
1 oz.	0	0	15	0	0	13⅝	0	0	12¼
19	0	0	14¼	0	0	13	0	0	11⅝
17	0	0	12¾	0	0	11⅝	0	0	10⅜
13	0	0	9¾	0	0	8⅞	0	0	8
11	0	0	8¼	0	0	7½	0	0	6¾
10	0	0	7½	0	0	6⅞	0	0	6⅛
9	0	0	6¾	0	0	6⅛	0	0	5½
8	0	0	6	0	0	5½	0	0	4⅞
7	0	0	5¼	0	0	4¾	0	0	4¼
6	0	0	4½	0	0	4⅛	0	0	3⅝
5	0	0	3¾	0	0	3⅜	0	0	3⅛
4	0	0	3	0	0	2¾	0	0	2½
3	0	0	2¼	0	0	2	0	0	1⅞
2	0	0	1½	0	0	1⅜	0	0	1¼
1 dwt.	0	0	0¾	0	0	0⅝	0	0	0⅝
½	0	0	0⅜	0	0	0⅜	0	0	0½

	ij gr.			j ¾ gr.			j ½ gr		
oz.	oz.	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	11	7	6½	9	18	20¾	8	10	10⅞
400	9	1	19⅝	7	19	0⅞	6	16	8¾
300	6	16	8¾	5	19	16⅝	5	2	6½
200	4	10	21⅞	3	19	12½	3	8	4⅜
100	2	5	10⅞	1	19	18¼	1	14	2⅛
90	2	0	21⅝	1	15	18⅞	1	10	16⅜
80	1	16	8¾	1	11	19½	1	7	6½
70	1	11	19⅝	1	7	20	1	3	20¾
60	1	7	6½	1	3	20½	1	0	10⅞
50	1	2	17½	0	19	21⅛	0	17	1⅛
40	0	18	4⅜	0	15	21¾	0	13	15¼
30	0	13	15¼	0	11	22¼	0	10	5½
20	0	9	2⅛	0	7	22⅞	0	6	19⅝
10	0	4	13⅛	0	3	23⅜	0	3	9⅞
9	0	4	2⅛	0	3	13⅞	0	3	1⅝
8	0	3	15¼	0	3	4⅜	0	2	17½
7	0	3	4⅜	0	2	18¾	0	2	9¼
6	0	2	17½	0	2	9¼	0	2	1⅛
5	0	2	6½	0	1	23¾	0	1	16⅞
4	0	1	19⅝	0	1	14⅛	0	1	8¾
3	0	1	8¾	0	1	4⅝	0	1	0½
2	0	0	21⅞	0	0	19⅛	0	0	16⅜
1 oz.	0	0	10⅞	0	0	9½	0	0	8⅛
19	0	0	10⅜	0	0	9⅛	0	0	7¾
17	0	0	9¼	0	0	8⅛	0	0	7
13	0	0	7⅛	0	0	6¼	0	0	5⅜
11	0	0	6	0	0	5¼	0	0	4½
10	0	0	5½	0	0	4¾	0	0	4⅛
9	0	0	4⅞	0	0	4¼	0	0	3⅜
8	0	0	4⅜	0	0	3⅞	0	0	3¼
7	0	0	3⅞	0	0	3⅜	0	0	2⅞
6	0	0	3¼	0	0	2⅞	0	0	2½
5	0	0	2¾	0	0	2⅜	0	0	2
4	0	0	2⅛	0	0	1⅞	0	0	1⅝
3	0	0	1⅝	0	0	1⅜	0	0	1¼
2	0	0	1⅛	0	0	1	0	0	0⅞
1 dwt.	0	0	0½	0	0	0½	0	0	0⅜
½	0	0	0¼	0	0	0¼	0	0	0⅛

	1¼ gr.			1 gr.			¾ gr		
oz.	oz	dwt	gr.	oz.	dwt	gr.	oz.	dwt	gr.
500	7	2	2½	5	3	15¼	4	5	5⅜
400	5	13	16⅜	4	10	21⅞	3	8	4⅜
300	4	5	6¼	3	8	4⅜	2	11	3⅜
200	2	16	20⅛	2	5	10⅞	1	14	2⅛
100	1	8	10⅛	1	2	17½	0	17	1⅛
90	1	5	13⅞	1	0	10⅞	0	15	8⅛
80	1	2	17⅝	0	18	4⅜	0	13	15¼
70	0	19	21½	0	15	21⅞	0	11	22⅜
60	0	17	1¼	0	13	15¼	0	10	5½
50	0	14	5	0	11	8¾	0	8	12½
40	0	11	8⅞	0	9	2⅛	0	6	19⅜
30	0	8	12⅝	0	6	19⅝	0	5	2¾
20	0	5	16⅜	0	4	13⅛	0	3	9⅞
10	0	2	20¼	0	2	6½	0	1	16⅞
9	0	2	13⅜	0	2	1⅛	0	1	12⅞
8	0	2	6⅝	0	1	19⅝	0	1	8¾
7	0	1	23¾	0	1	14¼	0	1	4⅝
6	0	1	16⅞	0	1	8¾	0	1	0½
5	0	1	10⅛	0	1	3⅜	0	0	20½
4	0	1	3¼	0	0	21⅞	0	0	16⅜
3	0	0	20½	0	0	16⅜	0	0	12¼
2	0	0	13⅝	0	0	10⅞	0	0	8⅛
1 oz.	0	0	6⅞	0	0	5½	0	0	4⅛
19	0	0	6½	0	0	5⅛	0	0	3⅞
17	0	0	5¾	0	0	4⅝	0	0	3½
13	0	0	4⅜	0	0	3½	0	0	2⅝
11	0	0	3¾	0	0	3	0	0	2¼
10	0	0	3⅜	0	0	2¾	0	0	2
9	0	0	3⅛	0	0	2½	0	0	1¾
8	0	0	2¾	0	0	2⅛	0	0	1⅝
7	0	0	2⅜	0	0	1⅞	0	0	1⅜
6	0	0	2	0	0	1⅝	0	0	1¼
5	0	0	1¾	0	0	1⅜	0	0	1
4	0	0	1⅜	0	0	1⅛	0	0	0⅞
3	0	0	1	0	0	0⅞	0	0	0⅝
2	0	0	0⅝	0	0	0½	0	0	0⅜
1 dwt.	0	0	0⅜	0	0	0¼	0	0	0¼
½	0	0	0⅛	0	0	0⅛	0	0	0⅛

	½ gr			¼ gr.			car. gr.		ca gr multi
oz.	oz.	dwt	gr.	oz	dwt	gr.	ij	0¼	0-2¾ by 3
500	2	16	19⅝	1	8	9⅞	ij	0¾	0-1¾ by 5
400	2	5	10⅞	1	2	17½	ij	j¾	0-3¼ by 3
300	1	14	2⅛	0	17	1⅛	iij	0¼	0-1¾ by 7
200	1	2	17½	0	11	8¾	iij	0¾	1-0¼ by 3
100	0	11	8¾	0	5	16⅜	iij	j¾	0-2¾ by 5
90	0	10	5¼	0	5	2¾	iij	iij¾	0-2¼ by 7
80	0	9	2⅛	0	4	13⅛	iiij	0¼	0-3¼ by 5
70	0	7	22⅞	0	3	23½	iiij	0½	0-2¾ by 6
60	0	6	19⅝	0	3	9⅞	iiij	j	1-0¼ by 4
50	0	5	16⅜	0	2	20⅛	iiij	j½	1-3½ by 5
40	0	4	13⅛	0	2	6½	iiij	ij	0-2¼ by 8
30	0	3	9⅞	0	1	16⅞	iiij	ij¾	0-3¾ by 5
20	0	2	6½	0	1	3¼	iiij	iij	1-0¾ by 4
10	0	1	3¼	0	0	13⅝	iiij	iij¼	0-2¾ by 7
9	0	1	0½	0	0	12¼	iiij	iij½	0-3¼ by 6
8	0	0	21⅞	0	0	10⅞	v	0¼	0-2¼ by 9
7	0	0	19⅛	0	0	9½	v	j	0-3 by 7
6	0	0	16⅜	0	0	8⅛	v	j¼	1-0¼ by 5
5	0	0	13⅝	0	0	6⅞	v	j¾	1-3¼ by 3
4	0	0	10⅞	0	0	5½	v	ij	0-2¾ by 8
3	0	0	8⅛	0	0	4⅛	v	ij½	0-3¾ by 6
2	0	0	5½	0	0	2¾	v	ij¾	0-3¼ by 7
1 oz.	0	0	2¾	0	0	1⅜	v	iij	1-1¾ by 4
19	0	0	2⅝	0	0	1¼	vj	j	1-1 by 5
17	0	0	2⅜	0	0	1⅛	vj	j½	1-0¼ by 6
13	0	0	1¾	0	0	0⅞	vj	ij	0-3¼ by 8
11	0	0	1½	0	0	0¾	vj	ij¼	1-1¼ by 5
10	0	0	1⅜	0	0	0⅝	vj	iij	1-0¼ by 6
9	0	0	1¼	0	0	0⅝	vj	iij½	1-1½ by 5
8	0	0	1⅛	0	0	0½	vij	0½	1-0¾ by 6
7	0	0	1	0	0	0½	vij	0¾	1-1¾ by 5
6	0	0	0⅞	0	0	0⅜	vij	j¼	0-3¼ by 9
5	0	0	0⅝	0	0	0⅜	vij	ij	1-2 by 5
4	0	0	0½	0	0	0¼	vij	iij	1-3¾ by 4
3	0	0	0⅜	0	0	0¼	vij	iij¼	1-2¼ by 5
2	0	0	0¼	0	0	0⅛	vij	iij½	1-1¼ by 6
1 dwt.	0	0	0⅛	0	0	0⅛	viij	0½	1-2½ by 5
½	0	0	0⅛	0	0	0	viij	j	1-1½ by 6

Uſe of the GOLD TABLES.

The fineneſs from 2 carats to ¼ of a carat grain ſtands at the top of the page, and the weight from 500 ounces to one half pennyweight on the ſide, and where they meet is the quantity of ſtandard; thus againſt 200 ounces, and under 1 car. 1¼ gr. is 11 oz. 18 dwt. 15¼ gr. againſt 70 oz. is 4 oz. 3 dwt. 12½ gr. againſt 3 oz. is 3 dwt. 13⅞ gr. and againſt 4 dwt. is 5¾ gr. which is the ſtandard contained in each, and by adding them together we have 16 oz. 6 dwt. 9½ gr. which is the quantity in 273 oz. 4 dwt. of that fineneſs.

The ſtandard in any fineneſs between 2 car. and 4 car. (except the ¼ grains) is obtained by halveing the given fineneſs, taking the ſtandard out of the table under that ½ fineneſs, and then doubling of it, as if the given fineneſs was 2 car. 3½gr. the ½ fineneſs of which is 1 car. 1¾gr. againſt 500 oz. of which ſtands 32 oz. 13 dwt. 9⅝ gr. againſt 30 ounces is 1 oz. 19 dwt. 4⅞ gr. and againſt 19 dwt. is 1 dwt. 5¾ gr. any of which being doubled ſeparately will give the quantity of ſtandard, as 65 oz. 6 dwt. 19¼ gr. for that in 500 oz. 3 oz. 18 dwt. 9¾ gr. for that in 30 oz. and 2 dwt. 11½ gr. for that in 19 dwt. and if they are added together and then doubled, we ſhall have

34 oz 13 dwt. 20¼ gr. for the ſtandard in 530 oz. 19 dwt. of that fineneſs.

In like manner the ſtandard in any of the fineneſſes in the laſt column of the table, may be found by multiplying thoſe ſet againſt them by 3, 4, 5, &c. and univerſally if the quantity under 1 car. be multiplied by the number of carats, and divided by the aliquot parts of a carat for the grains and quarters, it will give the quantity of ſtandard required, as appears by the work in explaining the uſe of the ſilver tables in page 97.

The fineneſſes we have given examples in, are the abſolute ones, or whoſe relation to ſtandard is not conſidered, but it is generally the reports or relative fineneſſes, which are collected out of theſe tables, exactly in the ſame manner as thoſe above; the only difference being in that they muſt be added to the groſs weight if better, and ſubſtracted from it if worſe than ſtandard. Thus if the 273 oz. 4 dwt. above be better 1 car. 1¼ gr. there will be 289 oz 10 dwt. 9½ gr. of ſtandard in it, but if worſe, but 256 oz. 17 dwt. 14½ gr. and 530 oz. 19 dwt. Wo. 2 car. 3½ gr. contains 496 oz. 6 dwt. 3¾ gr. of ſtandard.

TABLES

OF THE

QUANTITY

OF

SILVER,

From 18 Dwt. to Half a Pennyweight better, to be added to one Ounce of Silver, from Half a Pennyweight to 20 Dwt. worſe, to make it Standard.

	xviij dwt.			xvij dwt ob			xvij dwt		
Wo.	oz	dt.	gr.	oz	dt.	gr.	oz	d	gr.
j oz	1	2	5 3/8	1	2	20 5/8	1	3	12 1/2
xix ob	1	1	16	1	2	6 7/8	1	2	22 7/8
xix	1	1	2 5/8	1	1	17 1/8	1	2	8 1/2
xviij ob	1	0	13 3/8	1	1	3 3/8	1	1	18 3/8
xviij	1	0	0	1	0	13 3/4	1	1	4 1/4
xvij ob	0	19	10 5/8	1	0	0	1	0	14 1/8
xvij	0	18	21 3/8	0	19	10 1/4	1	0	0
xvj ob	0	18	8	0	18	20 5/8	0	19	9 7/8
xvj	0	17	18 5/8	0	18	6 7/8	0	18	19 1/4
xv ob	0	17	5 3/8	0	17	17 1/8	0	18	5 5/8
xv	0	16	16	0	17	3 3/8	0	17	15 1/2
xiv ob	0	16	2 5/8	0	16	13 1/8	0	17	1 3/8
xiv	0	15	13 3/8	0	16	0	0	16	11 1/4
xiij ob	0	15	0	0	15	10 1/4	0	15	21 1/8
xiij	0	14	10 5/8	0	14	20 5/8	0	15	7 1/8
xij ob	0	3	21 3/8	0	14	6 7/8	0	14	17
xij	0	13	8	0	13	17 1/8	0	14	2 7/8
xi ob	0	12	18 5/8	0	13	3 3/8	0	13	12 3/4
xi	0	12	5 3/8	0	12	13 3/4	0	12	22 5/8
x ob	0	11	16	0	12	0	0	12	8 1/2
x	0	11	2 5/8	0	11	10 1/4	0	11	18 3/8
ix ob	0	10	13 3/8	0	10	20 5/8	0	11	4 1/4
ix	0	10	0	0	10	6 7/8	0	10	14 1/8
viij ob	0	9	10 5/8	0	9	17 1/8	0	10	0
viij	0	8	21 3/8	0	9	3 3/8	0	9	9 7/8
vij ob	0	8	8	0	8	13 3/4	0	8	19 3/4
vij	0	7	18 5/8	0	8	0	0	8	5 5/8
vj ob	0	7	5 3/8	0	7	10 1/4	0	7	15 1/2
vj	0	6	16	0	6	20 5/8	0	7	1 3/8
v ob	0	6	2 5/8	0	6	6 7/8	0	6	11 1/4
v	0	5	13 3/8	0	5	17 1/8	0	5	21 1/8
iiij ob	0	5	0	0	5	3 3/8	0	5	7 1/8
iiij	0	4	10 5/8	0	4	13 3/4	0	4	17 1/8
iij ob	0	3	21 3/8	0	4	0	0	4	2 7/8
iij	0	3	8	0	3	10 1/4	0	3	12 3/4
ij ob	0	2	18 5/8	0	2	20 5/8	0	2	22 5/8
ij	0	2	5 3/8	0	2	6 7/8	0	2	8 1/2
j ob	0	1	16	0	1	17 1/8	0	1	18 3/8
j	0	1	2 5/8	0	1	3 3/8	0	1	4 1/4
ob	0	0	13 3/8	0	0	13 3/4	0	0	14 1/8

	xvj d. q. ob			xvj d. q.			xv d. q. ob		
Wo.	oz	dt.	gr.	oz	dt.	gr.	oz	dt.	gr.
j oz.	1	4	$5\frac{7}{8}$	1	5	0	1	5	$19\frac{3}{8}$
xix ob	1	3	$15\frac{1}{4}$	1	4	9	1	5	$3\frac{7}{8}$
xix	1	3	$0\frac{3}{4}$	1	3	18	1	4	$12\frac{3}{8}$
xviij ob	1	2	$10\frac{1}{8}$	1	3	3	1	3	$20\frac{7}{8}$
xviij	1	1	$19\frac{5}{8}$	1	2	12	1	3	$5\frac{3}{8}$
xvij ob	1	1	$5\frac{1}{8}$	1	1	21	1	2	$13\frac{7}{8}$
xvij	1	0	$14\frac{1}{2}$	1	1	6	1	1	$22\frac{1}{2}$
xvj ob	1	0	0	1	0	15	1	1	7
xvj	0	19	$9\frac{1}{2}$	1	0	0	1	0	$15\frac{1}{2}$
xv ob	0	18	$18\frac{7}{8}$	0	19	9	1	0	0
xv	0	18	$4\frac{3}{8}$	0	18	18	0	19	$8\frac{1}{2}$
xiiij ob	0	17	$13\frac{3}{4}$	0	18	3	0	18	17
xiiij	0	16	$23\frac{1}{4}$	0	17	12	0	18	$1\frac{1}{2}$
xiij ob	0	16	$8\frac{3}{4}$	0	16	21	0	17	$10\frac{1}{8}$
xiij	0	15	$18\frac{1}{8}$	0	16	6	0	16	$18\frac{5}{8}$
xij ob	0	15	$3\frac{5}{8}$	0	15	15	0	16	$3\frac{1}{8}$
xij	0	14	$13\frac{1}{8}$	0	15	0	0	15	$11\frac{5}{8}$
xj ob	0	13	$22\frac{1}{2}$	0	14	9	0	14	$20\frac{1}{8}$
xj	0	13	8	0	13	18	0	14	$4\frac{5}{8}$
x ob	0	12	$17\frac{1}{2}$	0	13	3	0	13	$13\frac{1}{8}$
x	0	12	$2\frac{7}{8}$	0	12	12	0	12	$21\frac{5}{8}$
ix ob	0	11	$12\frac{3}{8}$	0	11	21	0	12	$6\frac{1}{4}$
ix	0	10	$21\frac{7}{8}$	0	11	6	0	11	$14\frac{3}{4}$
viij ob	0	10	$7\frac{1}{4}$	0	10	15	0	10	$23\frac{1}{4}$
viij	0	9	$16\frac{3}{4}$	0	10	0	0	10	$7\frac{3}{4}$
vij ob	0	9	$2\frac{1}{8}$	0	9	9	0	9	$16\frac{1}{4}$
vij	0	8	$11\frac{5}{8}$	0	8	18	0	9	$0\frac{3}{4}$
vj ob	0	7	$21\frac{1}{8}$	0	8	3	0	8	$9\frac{1}{4}$
vj	0	7	$6\frac{1}{2}$	0	7	12	0	7	$17\frac{3}{4}$
v ob	0	6	15	0	6	21	0	7	$2\frac{1}{4}$
v	0	6	$1\frac{1}{2}$	0	6	6	0	6	$10\frac{7}{8}$
iiij ob	0	5	$10\frac{7}{8}$	0	5	15	0	5	$19\frac{3}{8}$
iiij	0	4	$20\frac{3}{8}$	0	5	0	0	5	$3\frac{7}{8}$
iij ob	0	4	$5\frac{7}{8}$	0	4	9	0	4	$12\frac{3}{8}$
iij	0	3	$15\frac{1}{4}$	0	3	18	0	3	$20\frac{7}{8}$
ij ob	0	3	$0\frac{3}{4}$	0	3	3	0	3	$5\frac{3}{8}$
ij	0	2	$10\frac{1}{8}$	0	2	12	0	2	$13\frac{7}{8}$
j ob	0	1	$19\frac{5}{8}$	0	1	21	0	1	$22\frac{1}{2}$
j	0	1	$5\frac{1}{8}$	0	1	6	0	1	7
ob	0	0	$14\frac{1}{2}$	0	0	15	0	0	$15\frac{1}{2}$

	xv d. Nº			xiiij d. Nº ob			xiiij d. Nº		
Wo.	oz	dt.	gr.	oz	dt.	gr.	oz.	dt.	gr.
j oʒ	1	6	16	1	7	14⅛	1	8	13¾
xix ob	1	6	0	1	6	21½	1	7	20⅞
xix	1	5	8	1	6	5	1	7	3⅜
xviij ob	1	4	16	1	5	12⅜	1	6	10¼
xviij	1	4	0	1	4	19⅞	1	5	17⅛
xvij ob	1	3	8	1	4	3¼	1	5	0
xvij	1	2	16	1	3	10¾	1	4	6⅞
xvj ob	1	2	0	1	2	18¼	1	3	13¾
xvj	1	1	8	1	2	1⅝	1	2	20⅝
xv ob	1	0	16	1	1	9⅛	1	2	3⅝
xv	1	0	0	1	0	16½	1	1	10¼
xiiij ob	1	19	8	1	0	0	1	0	17⅛
xiiij	0	18	16	0	19	7½	1	0	0
xiij ob	0	18	0	0	18	14⅞	0	19	6⅞
xiij	0	17	8	0	17	22¼	0	18	3¾
xij ob	0	16	16	0	17	5¾	0	17	20⅝
xij	0	16	0	0	16	13¼	0	17	3¾
xj ob	0	15	8	0	15	20⅝	0	16	10¼
xj	0	14	16	0	15	4⅛	0	15	17⅛
x ob	0	14	0	0	14	11½	0	15	0
x	0	13	8	0	13	19	0	14	6⅞
ix ob	0	12	16	0	13	2½	0	13	13¾
ix	0	12	0	0	12	9⅞	0	12	20⅝
viij ob	0	11	8	0	11	17⅜	0	12	3⅜
viij	0	10	16	0	11	0¾	0	11	10¼
vij ob	0	10	0	0	10	8¼	0	10	17⅛
vij	0	9	8	0	9	15¾	0	10	0
vj ob	0	8	16	0	8	23⅛	0	9	6⅞
vj	0	8	0	0	8	6⅝	0	8	13¾
v ob	0	7	8	0	7	14⅛	0	7	20⅝
v	0	6	16	0	6	21½	0	7	3⅜
iiij ob	0	6	0	0	6	5	0	6	10¼
iiij	0	5	8	0	5	12⅜	0	5	17⅛
iij ob	0	4	16	0	4	19⅞	0	5	0
iij	0	4	0	0	4	3¼	0	4	6⅞
ij ob	0	3	8	0	3	10¾	0	3	13¾
ij	0	2	16	0	2	18¼	0	2	20⅝
j ob	0	2	0	0	2	1⅝	0	2	3⅜
j	0	1	8	0	1	9⅛	0	1	10¼
x	0	0	16	0	0	16½	0	0	17⅛

	xiij d wt. ob.			xiij d wt			xij d wt ob.		
Wo.	oz	dt.	gr.	oz	dt	gr.	oz	dt.	gr.
j oz	1	9	15⅛	1	10	18½	1	12	0
xix ob	1	8	21⅜	1	0	0	1	11	4⅞
xix	1	8	5½	1	9	5½	1	10	9⅝
xviij ob	1	7	9¾	1	8	11⅛	1	9	14⅜
xviij	1	6	16	1	7	16⅝	1	8	19¼
xvij ob	1	5	22½	1	6	22⅛	1	8	0
xvij	1	5	4⅜	1	6	3¾	1	7	4⅞
xvj ob	1	4	10⅝	1	5	9¼	1	6	9⅝
xvj	1	3	16⅞	1	4	14¾	1	5	14⅜
xv ob	1	2	23⅛	1	3	20¼	1	4	19¼
xv	1	2	5⅜	1	3	1⅞	1	4	0
xiv ob	1	1	11½	1	2	7⅜	1	3	4⅞
xiv	1	0	17¾	1	1	12⅞	1	2	9⅝
xiij ob	1	0	0	1	0	18½	1	1	14⅜
xiij	0	19	6¼	1	0	0	1	0	19¼
xij ob	0	18	21⅜	0	19	5½	1	0	0
xij	0	18	2⅜	0	18	11⅛	1	19	4⅞
xj ob	0	17	0⅞	0	17	16⅝	0	18	9⅝
xj	0	16	7⅛	0	16	22⅛	0	17	14⅜
x ob	0	15	13⅛	0	16	3¾	0	16	19¼
x	0	14	19½	0	15	9¼	0	16	0
ix ob	0	14	1¾	0	14	14¾	0	15	4⅞
ix	0	13	8	0	13	20¼	0	14	9⅝
viij ob	0	12	14¼	0	13	1⅞	0	13	14⅜
viij	0	11	20⅜	0	12	7⅜	0	12	19¼
vij ob	0	11	2⅜	0	11	12⅞	0	12	0
vij	0	10	8⅛	0	10	18½	0	11	4⅞
vj ob	0	9	15⅛	0	10	0	0	10	9⅝
vj	0	8	21⅜	0	9	5½	0	9	14⅜
v ob	0	8	3½	0	8	11⅛	0	8	19¼
v	0	7	9¾	0	7	16⅝	0	8	0
iiij ob	0	6	16	0	6	22⅛	0	7	4⅞
iiij	0	5	22¼	0	6	3¾	0	6	9⅝
iij ob	0	5	4⅜	0	5	9¼	0	5	14⅜
iij	0	4	10⅝	0	4	14¾	0	4	19¼
ij ob	0	3	16⅞	0	3	20¼	0	4	0
ij	0	2	23⅛	0	3	1⅞	0	3	4⅞
j ob	0	2	5⅜	0	2	7⅜	0	2	9⅝
j	0	1	11½	0	1	12⅞	0	1	14⅜
ob	0	0	17¾	0	0	18½	0	0	19¼

	xij d oz			xj d oz ob			xj d oz		
Wo.	oz	dt.	gr	oz	dt	gr	oz	dt.	gr.
j oz	1	13	8	1	14	18¾	1	16	8⅛
xix ob	1	12	12	1	13	21⅞	1	15	10⅞
xix	1	11	16	1	13	1	1	14	13⅛
xviij ob	1	10	20	1	12	4⅛	1	13	15¼
xviij	1	10	0	1	11	7¼	1	12	17½
xvij ob	1	9	4	1	10	10⅜	1	11	19⅝
xvij		8	8	1	9	13⅝	1	10	21⅞
xvj ob	1	7	12	1	8	16¾	1	10	0
xvj		6	16	1	7	19⅞	1	9	2⅛
xv ob	1	5	20	1	6	23	1	8	4⅜
xv		5	0	1	6	2⅛	1	7	6⅞
xiiij ob		4	4	1	5	5¼	1	6	8½
xiiij		3	8	1	4	8⅜	1	5	10⅞
xiij ob	1	2	12	1	3	11½	1	4	13⅛
xiij	1	1	16	1	2	14⅝	1	3	15¼
xij ob	1	0	20	1	1	17¾	1	2	17½
xij	1	0	0	1	0	20⅞	1	1	19⅝
xj ob	0	19	4	1	0	0	1	0	21⅞
xj	0	18	8	0	19	3⅛	1	0	0
x ob	0	17	12	0	18	6¼	0	19	2⅛
x	0	16	16	0	17	9⅜	0	18	4⅜
ix ob	0	15	20	0	16	12½	0	17	6⅞
ix	0	15	0	0	15	15⅝	0	16	8½
viij ob	0	14	4	0	14	18¾	0	15	10⅞
viij	0	13	8	0	13	21⅞	0	14	13⅛
vij ob	0	12	12	0	13	1	0	13	15¼
vij	0	11	16	0	12	4⅛	0	12	17½
vj ob	0	10	20	0	11	7¼	0	11	19⅝
vj	0	10	0	0	10	10⅜	0	10	21⅞
v ob	0	9	4	0	9	13⅝	0	10	0
v	0	8	8	0	8	16¾	0	9	2⅛
iiii ob	0	7	12	0	7	19⅞	0	8	4⅜
iiij	0	6	16	0	6	23	0	7	6⅞
iij ob	0	5	20	0	6	2⅛	0	6	8½
iij	0	5	0	0	5	5¼	0	5	10⅞
ij ob	0	4	4	0	4	8⅜	0	4	13⅛
ij	0	3	8	0	3	11½	0	3	5¼
j ob	0	2	12	0	2	14⅝	0	2	17½
j	0	1	16	0	1	17¾	0	1	19⅝
ob	0	0	20	0	0	20⅞	0	0	21⅞

	x d. qᵃ ob			x d. qᵃ			ix d. qᵃ ob		
Wo.	oz	dt.	gr.	oz	dt.	gr	oz	dt.	gr.
j oz.	1	18	2⅛	2	0	0	2	2	2½
xix ob	1	17	3⅜	1	19	0	2	1	1¼
xix	1	16	6⅝	1	18	0	2	0	0
xviij ob	1	15	5¾	1	17	0	1	18	22¾
xviij	1	14	6⅞	1	16	0	1	17	21½
xvij ob	1	13	8	1	15	0	1	16	20¼
xvij	1	12	9⅛	1	14	0	1	15	19
xvj ob	1	11	10¼	1	13	0	1	14	17⅝
xvj	1	10	11¾	1	12	0	1	13	16⅜
xv ob	1	9	12⅝	1	11	0	1	12	15⅛
xv	1	8	13¾	1	10	0	1	11	13⅞
xiiij ob	1	7	14⅞	1	9	0	1	10	12⅝
xiiij	1	6	16	1	8	0	1	9	11⅜
xiij ob	1	5	17⅛	1	7	0	1	8	10⅛
xiij	1	4	18¼	1	6	0	1	7	8⅞
xij ob	1	3	19⅜	1	5	0	1	6	7⅝
xij	1	2	20⅝	1	4	0	1	5	6⅜
xj ob	1	1	21¾	1	3	0	1	4	5
xj	1	0	22⅞	1	2	0	1	3	3¾
x ob	1	0	0	1	1	0	1	2	2½
x	0	19	1⅛	1	0	0	1	1	1¼
ix ob	0	18	2¼	0	19	0	1	0	0
ix	0	17	3⅜	0	18	0	0	18	22¾
viij ob	0	16	6⅝	0	17	0	0	17	21½
viij	0	15	5¾	0	16	0	0	16	20¼
vij ob	0	14	6⅞	0	15	0	0	15	19
vij	0	13	8	0	14	0	0	14	17⅝
vj ob	0	12	9⅛	0	13	0	0	13	16⅜
vj	0	11	10¼	0	12	0	0	12	15⅛
v ob.	0	10	11⅜	0	11	0	0	11	13⅞
v	0	9	12⅝	0	10	0	0	10	12⅝
iiij ob	0	8	13¾	0	9	0	0	9	11⅜
iiij	0	7	14⅞	0	8	0	0	8	10⅛
iij ob	0	6	16	0	7	0	0	7	8⅞
iij	0	5	17⅛	0	6	0	0	6	7⅝
ij ob	0	4	18½	0	5	0	0	5	6⅜
ij	0	3	19⅜	0	4	0	0	4	5
j ob	0	2	20⅝	0	3	0	0	3	3¾
j	0	1	21¾	0	2	0	0	2	2½
ob	0	0	22⅞	0	1	0	0	1	1¼

	ix dwt			viij dwt ob			viij dwt		
Wo.	oz.	dt.	gr.	oz	dt.	gr.	oz	dt.	gr.
j oz.	2	4	$10\frac{5}{8}$	2	7	$1\frac{3}{4}$	2	10	0
xix ob	2	3	8	2	5	$21\frac{1}{8}$	2	8	18
x x	2	2	$5\frac{3}{8}$	2	4	17	2	7	12
xviij ob	2	1	$2\frac{5}{8}$	2	2	$8\frac{3}{4}$	2	6	6
xviij	2	0	0	2	3	$12\frac{1}{2}$	2	5	0
ob vij ob	1	18	$21\frac{3}{8}$	2	1	$4\frac{1}{4}$	2	3	18
xvij	1	17	$18\frac{5}{8}$	2	0	0	2	2	12
xvj ob	1	16	16	1	18	$19\frac{3}{4}$	2	1	6
xvj	1	15	$13\frac{3}{8}$	1	17	$15\frac{1}{2}$	2	0	0
xv ob	1	14	$10\frac{5}{8}$	1	16	$11\frac{3}{8}$	1	18	18
xv	1	13	8	1	15	$7\frac{1}{2}$	1	17	12
xiiij ob	1	12	$5\frac{3}{8}$	1	14	$2\frac{7}{8}$	1	16	6
xiiij	1	11	$2\frac{5}{8}$	1	12	$22\frac{5}{8}$	1	15	0
xiij ob	1	10	0	1	11	$18\frac{3}{8}$	1	13	18
xiij	1	8	$21\frac{3}{8}$	1	10	$14\frac{1}{8}$	1	12	12
xij ob	1	7	$18\frac{5}{8}$	1	9	$9\frac{7}{8}$	1	11	6
xij	1	6	16	1	8	$5\frac{5}{8}$	1	10	0
xj ob	1	5	$13\frac{3}{8}$	1	7	$1\frac{3}{8}$	1	8	18
xj	1	4	$10\frac{5}{8}$	1	5	$21\frac{1}{8}$	1	7	12
x ob	1	3	8	1	4	17	1	6	6
x	1	2	$5\frac{3}{8}$	1	3	$12\frac{3}{4}$	1	5	0
ix ob	1	1	$2\frac{5}{8}$	1	2	$8\frac{1}{2}$	1	3	18
ix	1	0	0	1		$4\frac{1}{4}$	1	2	12
viij ob	0	18	$21\frac{3}{8}$	1	0	0	1	1	6
viij	0	17	$18\frac{5}{8}$	0	18	$19\frac{3}{4}$	1	0	0
vij ob	0	16	16	0	17	$15\frac{1}{2}$	0	18	8
vij	0	15	$13\frac{3}{8}$	0	16	$11\frac{3}{8}$	0	17	12
vj ob	0	14	$10\frac{5}{8}$	0	15	$7\frac{1}{2}$	0	16	6
vj	0	13	8	0	14	$2\frac{7}{8}$	0	15	0
v ob	0	12	$5\frac{3}{8}$	0	12	$22\frac{5}{8}$	0	13	18
v	0	11	$2\frac{5}{8}$	0	11	$18\frac{3}{8}$	0	12	12
iiij ob	0	10	0	0	10	$14\frac{1}{8}$	0	11	6
iiij	0	8	$21\frac{3}{8}$	0	9	$9\frac{7}{8}$	0	10	0
iij ob	0	7	$18\frac{5}{8}$	0	8	$5\frac{5}{8}$	0	8	18
iij	0	6	16	0	7	$1\frac{3}{8}$	0	7	12
ij ob	0	5	$13\frac{3}{8}$	0	5	$21\frac{1}{8}$	0	6	6
ij	0	4	$10\frac{5}{8}$	0	4	17	0	5	0
j ob	0	3	8	0	3	$12\frac{3}{4}$	0	3	18
j	0	2	$5\frac{3}{8}$	0	2	$8\frac{1}{2}$	0	2	12
ob	0	1	$2\frac{5}{8}$	0	1	$4\frac{1}{4}$	0	1	6

	vij d. ob. ß			vij d. ob.			vj d. ob. ß		
Wo.	oz	dt	gr.	oz	dt	gr.	oz	dr.	gr.
j oz.	2	13	8	2	17	3¾	3	1	12⅞
xix ß	2	12	0	2	15	17⅛	3	0	0
xix	2	10	16	2	14	6⅞	2	18	11⅛
xviij ß	2	9	8	2	12	20⅝	2	16	22⅛
xviij	2	8	0	2	11	10¼	2	15	9¼
xvij ß	2	6	15	2	10	0	2	13	20¼
xvij	2	5	8	2	8	13¾	2	12	7¾
xvj ß	2	4	0	2	7	3⅜	2	10	18½
xvj	2	2	16	2	5	17⅛	2	9	5½
xv ß	2	1	8	2	4	6⅞	2	7	16⅝
xv	2	0	0	2	2	20⅝	2	6	3¾
xiiij ß	1	18	16	2	1	10¼	2	4	14¾
xiiij	1	17	8	2	0	0	2	3	1⅞
xiij ß	1	16	0	1	18	13¾	2	1	12⅞
xiij	1	14	16	1	17	3⅜	2	0	0
xij ß	1	13	8	1	15	17⅛	1	18	11⅛
xij	1	12	0	1	14	6⅞	1	16	22⅛
xj ß	1	10	16	1	12	20⅝	1	15	9¼
xj	1	9	8	1	11	10¼	1	13	20¼
x ß	1	8	0	1	10	0	1	12	7¾
x	1	6	16	1	8	13¾	1	10	18½
ix ß	1	5	8	1	7	3⅜	1	9	5½
ix	1	4	0	1	5	17⅛	1	7	16⅝
viij ß	1	2	16	1	4	6⅞	1	6	3¾
viij	1	1	8	1	2	20⅝	1	4	14¾
vij ß	1	0	0	1	1	10¼	1	3	1⅞
vij	0	18	15	1	0	0	1	1	12⅞
vj ß	0	17	8	0	18	13¾	1	0	0
vj	0	16	0	0	17	3⅜	0	18	11⅛
v ß	0	14	16	0	15	17⅛	0	10	22⅛
v	0	13	8	0	14	6⅞	0	15	9¼
iiij ß	0	12	0	0	12	20⅝	0	13	20¼
iiij	0	10	16	0	11	10¼	0	12	7¾
iij ß	0	9	8	0	10	0	0	10	18½
iij	0	8	0	0	8	13¾	0	9	5½
ij ß	0	6	16	0	7	3⅜	0	7	6⅝
ij	0	5	8	0	5	7⅛	0	6	3¾
j ß	0	4	0	0	4	6⅞	0	4	14¾
j	0	2	16	0	2	20⅝	0	3	1⅞
ß	0	1	8	0	1	10¼	0	1	12⅞

	vj s. Nº			v s. Nº ob			v s. Nº		
o.	oz	dt.	gr.	oz	dt.	gr	oz	dt.	gr
j oz	3	6	16	3	12	17½	4	0	0
xix ob	3	5	0	3	10	21⅞	3	18	0
xix	3	3	8	3	9	2¼	3	16	0
xviij ob	3	1	16	3	7	6½	3	14	0
xviij	3	0	0	3	5	10⅞	3	12	0
xvij ob	2	18	8	3	3	15¼	3	10	0
xvij	2	16	16	3	1	19⅝	3	8	0
xvj ob	2	15	0	3	0	0	3	6	0
xvj	2	13	8	2	18	4⅜	3	4	0
xv ob	2	11	16	2	16	8¾	3	2	0
xv	2	10	0	2	14	13⅛	3	0	0
xiiij ob	2	8	8	2	12	17½	2	18	0
xiiij	2	6	16	2	10	21⅞	2	16	0
xiij ob	2	5	0	2	9	2¼	2	14	0
xiij	2	3	8	2	7	6½	2	12	0
xij ob	2	1	16	2	5	10⅞	2	10	0
xij	2	0	0	2	3	15¼	2	8	0
xj ob	1	18	8	2	1	19⅝	2	6	0
xj	1	16	16	2	0	0	2	4	0
x ob	1	15	0	1	18	4⅜	2	2	0
x	1	13	8	1	16	8¾	2	0	0
ix ob	1	11	16	1	14	13⅛	1	18	0
ix	1	10	0	1	12	17½	1	16	0
viij ob	1	8	8	1	10	21⅞	1	14	0
viij	1	6	16	1	9	2¼	1	12	0
vij ob	1	5	0	1	7	6½	1	10	0
vij	1	3	8	1	5	10⅞	1	8	0
vj ob	1	1	16	1	3	15¼	1	6	0
vj	1	0	0	1	1	19⅝	1	4	0
v ob	0	18	8	1	0	0	1	2	0
v	0	16	16	0	18	4⅜	1	0	0
iiij ob	0	15	0	0	16	8¾	0	18	0
iiij	0	13	8	0	14	13⅛	0	16	0
iij ob	0	11	16	0	12	17½	0	14	0
iij	0	10	0	0	10	21⅞	0	12	0
ij ob	0	8	8	0	9	2¼	0	10	0
ij	0	6	16	0	7	6½	0	8	0
j ob	0	5	0	0	5	10⅞	0	6	0
j	0	3	8	0	3	15¼	0	4	0
ob	0	1	16	0	1	19⅝	0	2	0

	iiij s vj d			iiij s			iij s vj d		
Wo.	oz	dt.	gr.	oz	dt	gr.	oz	dt	gr.
j oz	4	8	21 3/8	5	0	0	5	14	6 7/8
xix ob	4	6	16	4	17	12	5	11	10 1/4
xix	4	4	10 5/8	4	15	0	5	8	13 3/4
xviij ob	4	2	5 3/8	4	12	12	5	5	17 1/8
xviij	4	0	0	4	10	0	5	2	20 5/8
xvij ob	3	17	18 5/8	4	7	12	5	0	0
xvij	3	15	13 3/8	4	5	0	4	17	3 3/8
xvj ob	3	13	8	4	2	12	4	14	6 7/8
xvj	3	11	2 5/8	4	0	0	4	11	10 1/4
xv ob	3	8	21 7/8	3	17	12	4	8	13 3/4
xv	3	6	16	3	15	0	4	5	17 1/8
xiiij ob	3	4	10 5/8	3	12	12	4	2	20 5/8
xiiij	3	2	5 3/8	3	10	0	4	0	0
xiij ob	3	0	0	3	7	12	3	17	3 3/8
xiij	2	17	18 5/8	3	5	0	3	14	6 7/8
xij ob	2	15	13 3/8	3	2	12	3	11	10 1/4
xij	2	13	8	3	0	0	3	8	13 3/4
xj ob	2	11	2 5/8	2	17	12	3	5	17 1/8
xj	2	8	21 3/8	2	15	0	3	2	20 5/8
x ob	2	6	16	2	12	12	3	0	0
x	2	4	10 5/8	2	10	0	2	17	3 3/8
ix ob	2	2	5 3/8	2	7	12	2	14	6 7/8
ix	2	0	0	2	5	0	2	11	10 1/4
viij ob	1	17	18 5/8	2	2	12	2	8	13 3/4
viij	1	15	13 3/8	2	0	0	2	5	17 1/8
vij ob	1	13	8	1	17	12	2	2	20 5/8
vij	1	11	2 5/8	1	15	0	2	0	0
vj ob	1	8	21 3/8	1	12	12	1	17	3 3/8
vj	1	6	16	1	10	0	1	14	6 7/8
v ob	1	4	10 5/8	1	7	12	1	11	10 1/4
v	1	2	5 3/8	1	5	0	1	8	13 3/4
iiij ob	1	0	0	1	2	12	1	5	17 1/8
iiij	0	17	18 5/8	1	0	0	1	2	20 5/8
iij ob	0	15	13 3/8	0	17	12	1	0	0
iij	0	13	8	0	15	0	0	17	3 3/8
ij ob	0	11	2 5/8	0	12	12	0	14	6 7/8
ij	0	8	21 3/8	0	10	0	0	11	10 1/4
j ob	0	6	16	0	7	12	0	8	13 3/4
j	0	4	10 5/8	0	5	0	0	5	17 1/8
ob	0	2	5 3/8	0	2	12	0	2	20 5/8

	iij d ob			ij d ob ob			ij d ob		
Wo.	oz	dt.	gr.	oz.	dt.	gr.	oz	dt.	gr
j oz.	6	13	8	8	0	0	10	0	0
xix ob	6	10	0	7	16	0	9	15	0
xix	6	6	16	7	12	0	9	10	0
xviij ob	6	3	8	7	8	0	9	5	0
xviij	6	0	0	7	4	0	9	0	0
xvij ob	5	16	16	7	0	0	8	15	0
xvij	5	13	8	6	16	0	8	10	0
xvj ob	5	10	0	6	12	0	8	5	0
xvj	5	6	16	6	8	0	8	0	0
xv ob	5	3	8	6	4	0	7	15	0
xv	5	0	0	6	0	0	7	10	0
xiiij ob	4	16	16	5	16	0	7	5	0
xiiij	4	13	8	5	12	0	7	0	0
xiij ob	4	10	0	5	8	0	6	15	0
xiij	4	6	16	5	4	0	6	10	0
xij ob	4	3	8	5	0	0	6	5	0
xij	4	0	0	4	16	0	6	0	0
xj ob	3	16	16	4	12	0	5	15	0
xj	3	13	8	4	8	0	5	10	0
x ob	3	10	0	4	4	0	5	5	0
x	3	6	16	4	0	0	5	0	0
ix ob	3	3	8	3	16	0	4	15	0
ix	3	0	0	3	12	0	4	10	0
viij ob	2	16	16	3	8	0	4	5	0
viij	2	13	8	3	4	0	4	0	0
vij ob	2	10	0	3	0	0	3	15	0
vij	2	6	16	2	16	0	3	10	0
vj ob	2	3	8	2	12	0	3	5	0
vj	2	0	0	2	8	0	3	0	0
v ob	1	16	16	2	4	0	2	15	0
v	1	13	8	2	0	0	2	10	0
iiij ob	1	10	0	1	16	0	2	5	0
iiij	1	6	16	1	12	0	2	0	0
iij ob	1	3	8	1	8	0	1	15	0
iij	1	0	0	1	4	0	1	10	0
ij ob	0	16	16	1	0	0	1	5	0
ij	0	13	8	0	16	0	1	0	0
j ob	0	10	0	0	12	0	0	15	0
j	0	6	16	0	8	0	0	10	0
ob	0	3	8	0	4	0	0	5	0

	j d.wt ob			j d.wt			ob		
Wo.	oz.	dt.	gr.	oz	dt.	gr.	oz	dt.	gr.
j oz.	13	6	16	20	0	0	40	0	0
xix ob	13	0	0	19	10	0	39	0	0
xix	12	13	8	19	0	0	38	0	0
xviij ob	12	6	16	18	10	0	37	0	0
xviij	12	0	0	18	0	0	36	0	0
xvij ob	11	13	8	17	10	0	35	0	0
xvij	11	6	16	17	0	0	34	0	0
xvj ob	11	0	0	16	10	0	33	0	0
xvj	10	13	8	16	0	0	32	0	0
xv ob	10	6	16	15	10	0	31	0	0
xv	10	0	0	15	0	0	30	0	0
xiiij ob	9	13	8	14	10	0	29	0	0
xiiij	9	6	16	14	0	0	28	0	0
xiij ob	9	0	0	13	10	0	27	0	0
xiij	8	13	8	13	0	0	26	0	0
xij ob	8	6	16	12	10	0	25	0	0
xij	8	0	0	12	0	0	24	0	0
xj ob	7	13	8	11	10	0	23	0	0
xj	7	6	16	11	0	0	22	0	0
x ob	7	0	0	10	10	0	21	0	0
x	6	13	8	10	0	0	20	0	0
ix ob	6	6	16	9	10	0	19	0	0
ix	6	0	0	9	0	0	18	0	0
viij ob	5	13	8	8	10	0	17	0	0
viij	5	6	16	8	0	0	16	0	0
vij ob	5	0	0	7	10	0	15	0	0
vij	4	13	8	7	0	0	14	0	0
vj ob	4	6	16	6	10	0	13	0	0
vj	4	0	0	6	0	0	12	0	0
v ob	3	13	8	5	10	0	11	0	0
v	3	6	16	5	0	0	10	0	0
iiij ob	3	0	0	4	10	0	9	0	0
iiij	2	13	8	4	0	0	8	0	0
iij ob	2	6	16	3	10	0	7	0	0
iij	2	0	0	3	0	0	6	0	0
ij ob	1	13	8	2	10	0	5	0	0
ij	1	6	16	2	0	0	4	0	0
j ob	1	0	0	1	10	0	3	0	0
j	0	13	8	1	0	0	2	0	0
ob	0	6	16	0	10	0	1	0	0

Uſe of the SILVER TABLES.

The reports of ſilver better than ſtandard are at the top of the page, and thoſe which are worſe from 1 oz. to one ½dwt on the ſide, and where they meet is found, how much of the better is to be added to one ounce of the worſe to make it ſtandard.

Thus if the ſilver you are to ſtandard with is xvj dwt. Br. and that to be made ſtandard is xj ob dwt. Wo. the table ſhews 14 dwt. 9 gr. will do it, if j oz. Wo. it will require 1 oz. 5 dwt. and if j oz. xj ob dwt. Wo. the above quantities of 14 dwt. 9 gr. added to 1 oz. 5 dwt. or 1 oz. 19 dwt. 9 gr. is what muſt be added of the better to 1 oz. of the worſe to make it ſtandard, and ſo of any other.

If there are three or more different ingots melted together, all of them worſe, as ſuppoſe xviij dwt. xiij dwt. and v ob dwt. the table will ſhew what quantity of any aſſigned fineneſs which is better; as for inſtance xiij ob dwt. Br. is to be added to one oz. of the melted maſs to make it ſtandard; thus xviij dwt. Wo. requires 1 oz. 16 dwt. 16 gr. the xiij dwt. Wo. requires 19 dwt. 6¼ gr. the v ob Wo. 8 dwt. 3½ gr. and being added together it makes 3 oz. 4 dwt. 1¾ gr. muſt be added of xiij Br. to make it ſtandard.

If inſtead of adding ſilver better, in order to ſtandard ſilver that is worſe, if it be required what part of any ingot that is worſe muſt be refined to any given fineneſs to make the remainder ſtandard; a general rule by which it may be performed, is given at the end of the gold tables.

TABLES.

TABLES
OF THE
QUANTITY
OF
GOLD,

From two Carats to one Quarter of a Carat Grain better, to be added to one Ounce of Gold, from a Quarter of a Carat Grain, to two Carats two Grains worſe, to make it Standard.

Wo.		ij tar			jcar iij¾			j tar iij½		
ca.	gr.	oz	dt.	gr.	oz	dt	gr.	oz	dt	gr.
ij	ij	1	5	0	1	5	19⅜	1	6	16
ij	j¾	1	4	9	1	5	3⅞	1	6	0
ij	j½	1	3	18	1	4	12⅜	1	5	8
ij	j¼	1	3	3	1	3	20⅞	1	4	16
ij	j	1	2	12	1	3	5⅜	1	4	0
ij	¾	1	1	21	1	2	13⅞	1	3	8
ij	½	1	1	6	1	1	22½	1	2	16
ij	¼	1	0	15	1	1	7	1	2	0
ij		1	0	0	1	0	15½	1	1	8
j	iij¾	0	19	9	1	0	0	1	0	16
j	iij½	0	18	18	0	19	8½	1	0	0
j	iij¼	0	18	3	0	18	17	0	19	8
j	iij	0	17	12	0	18	1½	0	18	16
j	ij¾	0	16	21	0	17	10⅛	0	18	0
j	ij½	0	16	6	0	16	18⅝	0	17	8
j	ij¼	0	15	15	0	16	3⅛	0	16	16
j	ij	0	15	0	0	15	11⅝	0	16	0
j	j¾	0	14	9	0	14	20⅛	0	15	8
j	j½	0	13	18	0	14	4⅝	0	14	16
j	j¼	0	13	3	0	13	13⅛	0	14	0
j	j	0	12	12	0	12	21⅝	0	13	8
j	¾	0	11	21	0	12	6¼	0	12	16
j	½	0	11	6	0	11	14¾	0	12	0
j	¼	0	10	15	0	10	23¼	0	11	8
j		0	10	0	0	10	7⅜	0	10	16
	iij¾	0	9	9	0	9	16¼	0	10	0
	iij½	0	8	18	0	9	0¾	0	9	8
	iij¼	0	8	3	0	8	9¼	0	8	16
	iij	0	7	12	0	7	17⅞	0	8	0
	ij¾	0	6	21	0	7	2⅜	0	7	8
	ij½	0	6	6	0	6	10⅞	0	6	16
	ij¼	0	5	15	0	5	19⅜	0	6	0
	ij	0	5	0	0	5	3⅞	0	5	8
	j¾	0	4	9	0	4	12⅝	0	4	16
	j½	0	3	18	0	3	20⅞	0	4	0
	j¼	0	3	3	0	3	5⅜	0	3	8
	j	0	2	12	0	2	13⅞	0	2	16
	¾	0	1	21	0	1	22⅜	0	2	0
	½	0	1	6	0	1	7	0	1	8
	¼	0	0	15	0	0	15½	0	0	16

Wo.		j car iij ¼			j car iij gr			j car ij ⅞		
ta.	gr.	oz.	dt.	gr.	oz	dt	gr.	oz	dt.	gr.
ij	ij	1	7	14⅛	1	8	13¾	1	9	15⅛
ij	j¾	1	6	21½	1	7	20⅛	1	8	21⅜
ij	j½	1	6	5⅝	1	7	3⅜	1	8	3½
ij	j¼	1	5	12⅜	1	6	10¼	1	7	9¾
ij	j	1	4	19⅞	1	5	17⅛	1	6	16
ij	¾	1	4	3¼	1	5	0	1	5	22½
ij	½	1	3	10¾	1	4	6⅞	1	5	4⅜
ij	¼	1	2	18¼	1	3	13¾	1	4	10⅝
ij		1	2	1⅝	1	2	20⅝	1	3	16⅞
j	iij¾	1	1	9⅛	1	2	3⅜	1	2	23⅛
j	iij½	1	0	16½	1	1	10¼	1	2	5⅜
j	iij¼	1	0	0	1	0	17⅛	1	1	11½
j	iij	0	19	7½	1	0	0	1	0	17¾
j	ij¾	0	18	14⅞	0	19	6⅞	1	0	0
j	ij½	0	17	22¼	0	18	13¾	0	19	6¼
j	ij¼	0	17	5¾	0	17	20⅝	0	18	21⅜
j	ij	0	16	13¼	0	17	3¾	0	18	2⅜
j	j¾	0	15	20⅝	0	16	10¼	0	17	0⅞
j	j½	0	15	4⅞	0	15	17⅛	0	16	7⅛
j	j¼	0	14	11½	0	15	0	0	15	13⅛
j	j	0	13	19	0	14	6⅞	0	14	19½
j	¾	0	13	2½	0	13	13¾	0	14	1¾
j	½	0	12	9⅞	0	12	20⅝	0	13	8
j	¼	0	11	17⅜	0	12	3⅜	0	12	14¼
j		0	11	0¾	0	11	10¼	0	11	20⅜
	iij¾	0	10	8¼	0	10	17⅛	0	11	2⅜
	iij½	0	9	15¾	0	10	0	0	10	8⅛
	iij¼	0	8	23⅛	0	9	6⅞	0	0	15⅛
	iij	0	8	6⅝	0	8	13¾	0	8	21⅜
	ij¾	0	7	14⅛	0	7	20⅝	0	8	3½
	ij½	0	6	21½	0	7	3⅜	0	7	9¾
	ij¼	0	6	5	0	6	10¼	0	6	16
	ij	0	5	12⅜	0	5	17⅛	0	5	22¼
	j¾	0	4	19⅞	0	5	0	0	5	4⅜
	j½	0	4	3¼	0	4	6⅞	0	4	10⅝
	j¼	0	3	10¾	0	3	13¾	0	3	16⅞
	j	0	2	18¼	0	2	20⅝	0	2	23⅛
	¾	0	2	1⅝	0	2	3⅜	0	2	5⅜
	½	0	1	9⅛	0	1	10¼	0	1	11½
	¼	0	0	16½	0	0	17⅛	0	0	17¾

Wo.		j car ij½			j car ij¼			j car ij		
ca.	qr.	oz	dt.	gr.	oz	dt.	gr.	oz	dt	gr.
ij	ij	1	10	18½	1	12	0	1	13	8
ij	j¾	1	10	0	1	11	4⅞	1	12	12
ij	j½	1	9	5½	1	10	9⅝	1	11	16
ij	j¼	1	8	11⅛	1	9	14⅜	1	10	20
ij	j	1	7	16⅝	1	8	19¼	1	10	0
ij	¾	1	6	22⅛	1	8	0	1	9	4
ij	½	1	6	3¾	1	7	4⅞	1	8	8
ij	¼	1	5	9¼	1	6	9⅝	1	7	12
ij		1	4	14¾	1	5	14⅜	1	6	16
j	iij¾	1	3	20¼	1	4	19¼	1	5	20
j	iij½	1	3	1⅞	1	4	0	1	5	0
j	iii¼	1	2	7⅜	1	3	4⅞	1	4	4
j	iij	1	1	12⅞	1	2	9⅝	1	3	8
j	ij¾	1	0	18½	1	1	14⅜	1	2	12
j	ij½	1	0	0	1	0	19¼	1	1	16
j	ij¼	0	19	5½	1	0	0	1	0	20
j	ij	0	18	11⅛	0	19	4⅞	1	0	0
j	j¾	0	17	16⅝	0	18	9⅝	0	19	4
j	j½	0	16	22⅛	0	17	14⅜	0	18	8
j	j¼	0	16	3¾	0	16	19¼	0	17	12
j	j	0	15	9¼	0	16	0	0	16	16
j	¾	0	14	14¾	0	15	4⅞	0	15	20
j	½	0	13	20¼	0	14	9⅝	0	15	0
j	¼	0	13	1⅞	0	13	14⅜	0	14	4
j		0	12	7⅜	0	12	19¼	0	13	8
	iii¾	0	11	12⅞	0	12	0	0	12	12
	iij½	0	10	18½	0	11	4⅞	0	11	16
	iij¼	0	10	0	0	10	9⅝	0	10	20
	iij	0	9	5½	0	9	14⅜	0	10	0
	ij¾	0	8	11⅛	0	8	19¼	0	9	4
	ij½	0	7	16⅝	0	8	0	0	8	8
	ij¼	0	6	22⅛	0	7	4⅞	0	7	12
	ij	0	6	3¾	0	6	9⅝	0	6	16
	j¾	0	5	9¼	0	5	14⅜	0	5	20
	j½	0	4	14¾	0	4	19¼	0	5	0
	j¼	0	3	20¼	0	4	0	0	4	4
	j	0	3	1⅞	0	3	4⅞	0	3	8
	¾	0	2	7⅜	0	2	9⅝	0	2	12
	½	0	1	12⅞	0	1	14⅜	0	1	16
	¼	0	0	18½	0	0	19¼	0	0	20

Wo.		j car j ¾			j car j ½			j car j ¼		
ca.	gr.	oz	dt.	gr.	oz	dt.	gr.	oz	dt.	gr.
ij	ij	1	14	18¾	1	16	8⅛	1	18	2⅛
ij	j¾	1	13	21⅞	1	15	10⅞	1	17	3⅜
ij	j½	1	13	1	1	14	13⅛	1	16	6⅝
ij	j¼	1	12	4⅛	1	13	15¼	1	15	5¾
ij	j	1	11	7¼	1	12	17½	1	14	6⅞
ij	¾	1	10	10⅜	1	11	19⅝	1	13	8
ij	½	1	9	13⅝	1	10	21⅞	1	12	9⅛
ij	¼	1	8	16¾	1	10	0	1	11	10¼
ij		1	7	19⅞	1	9	2⅛	1	10	11¾
j	iij¾	1	6	23	1	8	4⅜	1	9	12⅝
j	iij½	1	6	2⅛	1	7	6⅞	1	8	13¾
j	iij¼	1	5	5¼	1	6	8½	1	7	14⅞
j	iij	1	4	8 3/6	1	5	10⅞	1	6	16
j	ij¾	1	3	11½	1	4	13⅛	1	5	17⅛
j	ij½	1	2	14⅝	1	3	15¼	1	4	18¼
j	ij¼	1	1	17¾	1	2	17½	1	3	19⅜
j	ij	1	0	20⅞	1	1	19⅝	1	2	20⅝
j	j¾	1	0	0	1	0	21⅞	1	1	21¾
j	j½	0	19	3⅛	1	0	0	1	0	22⅞
j	j¼	0	18	6¼	0	19	2⅛	1	0	0
j	j	0	17	9⅜	0	18	4⅜	0	19	1⅛
j	¾	0	16	12½	0	17	6⅞	0	18	2¼
j	½	0	15	15⅝	0	16	8½	0	17	3⅜
j	¼	0	14	18¾	0	15	10⅞	0	16	6⅝
j		0	13	21⅞	0	14	13⅛	0	15	5¾
	iij¾	0	13	1	0	13	15¼	0	14	6⅞
	iij½	0	12	4⅛	0	12	17½	0	13	8
	iij¼	0	11	7¼	0	11	19⅝	0	12	9⅛
	iij	0	10	10⅜	0	10	21⅞	0	11	10¼
	ij¾	0	9	13⅝	0	10	0	0	10	11⅜
	ij½	0	8	16¾	0	9	2⅛	0	9	12⅝
	ij¼	0	7	19⅞	0	8	4⅜	0	8	13¾
	ij	0	6	23	0	7	6⅞	0	7	14⅞
	j¾	0	6	2⅛	0	6	8½	0	6	16
	j½	0	5	5¼	0	5	10⅞	0	5	17⅛
	j¼	0	4	8⅜	0	4	13⅛	0	4	18¼
	j	0	3	11½	0	3	15¼	0	3	19⅜
	¾	0	2	14⅝	0	2	17½	0	2	20⅝
	½	0	1	17¾	0	1	19⅝	0	1	21¾
	¼	0	0	20⅞	0	0	21⅞	0	0	22⅞

Wo.		j car j gr			j car 0¾			j car 0½		
ca.	gr.	oz	dt.	gr	oz	dt.	gr.	oz	dt.	gr.
ij	ij	2	0	0	2	2	2½	2	4	10⅝
ij	j¾	1	19	0	2	1	1¼	2	3	8
ij	j½	1	18	0	2	0	0	2	2	5⅜
ij	j¼	1	17	0	1	18	22¾	2	1	2⅝
ij	j	1	16	0	1	17	21½	2	0	0
ij	¾	1	15	0	1	16	20¼	1	18	21⅜
ij	½	1	14	0	1	15	19	1	17	18⅝
ij	¼	1	13	0	1	14	17⅝	1	16	16
ij		1	12	0	1	13	16⅜	1	15	13⅜
j	iij¾	1	11	0	1	12	15⅛	1	14	10⅝
j	iij½	1	10	0	1	11	13⅞	1	13	8
j	iij¼	1	9	0	1	10	12⅝	1	12	5⅜
j	iij	1	8	0	1	9	11⅜	1	11	2⅝
j	ij¾	1	7	0	1	8	10⅛	1	10	0
j	ij½	1	6	0	1	7	8⅞	1	8	21⅜
j	ij¼	1	5	0	1	6	7⅝	1	7	18⅝
j	ij	1	4	0	1	5	6⅜	1	6	16
j	j¾	1	3	0	1	4	5	1	5	13⅜
j	j½	1	2	0	1	3	3¾	1	4	10⅝
j	j¼	1	1	0	1	2	2½	1	3	8
j	j	1	0	0	1	1	1¼	1	2	5⅜
j	¾	0	19	0	1	0	0	1	1	2⅝
j	½	0	18	0	0	18	22¾	1	0	0
j	¼	0	17	0	0	17	21½	0	18	21⅜
j		0	16	0	0	16	20¼	0	17	18⅝
	iij¾	0	15	0	0	15	19	0	16	16
	iij½	0	14	0	0	14	17⅝	0	15	13⅜
	iij¼	0	13	0	0	13	16⅜	0	14	10⅝
	iij	0	12	0	0	12	15⅛	0	13	8
	ij¾	0	11	0	0	11	13⅞	0	12	5⅜
	ij½	0	10	0	0	10	12⅝	0	11	2⅝
	ij¼	0	9	0	0	9	11⅜	0	10	0
	ij	0	8	0	0	8	10⅛	0	8	21⅜
	j¾	0	7	0	0	7	8⅞	0	7	18⅝
	j½	0	6	0	0	6	7⅝	0	6	16
	j¼	0	5	0	0	5	6⅜	0	5	13⅜
	j	0	4	0	0	4	5	0	4	10⅝
	¾	0	3	0	0	3	3¾	0	3	8
	½	0	2	0	0	2	2½	0	2	5⅜
	¼	0	1	0	0	1	1¼	0	1	2⅝

Wo.		j *tar* 0¼			j *tar*			iij ¾ *gr*		
ca.	*gr.*	oz	dt.	gr.	oz	dt.	gr	oz	dt.	gr.
ij	ij	2	7	1¾	2	10	0	2	13	8
ij	j¾	2	5	21¼	2	8	18	2	12	0
ij	j½	2	4	17	2	7	12	2	10	16
ij	j¼	2	3	12¾	2	6	6	2	9	8
ij	j	2	2	8½	2	5	0	2	8	0
ij	¾	2	1	4¼	2	3	18	2	6	16
ij	½	2	0	0	2	2	12	2	5	8
ij	¼	1	18	19¾	2	1	6	2	4	0
ij		1	17	15½	2	0	0	2	2	16
j	iij¾	1	16	11⅜	1	18	18	2	1	8
j	iij½	1	15	7½	1	17	12	2	0	0
j	iij¼	1	14	2⅞	1	16	6	1	18	16
j	iij	1	12	22⅝	1	15	0	1	17	8
j	ij¾	1	11	18⅜	1	13	18	1	16	0
j	ij½	1	10	14⅛	1	12	12	1	14	16
j	ij¼	1	9	9⅞	1	11	6	1	13	8
j	ij	1	8	5⅝	1	10	0	1	12	0
j	j¾	1	7	1⅜	1	8	18	1	10	16
j	j½	1	5	21⅛	1	7	12	1	9	8
j	j¼	1	4	17	1	6	6	1	8	0
j	j	1	3	12¾	1	5	0	1	6	16
j	¾	1	2	8½	1	3	18	1	5	8
j	½	1	1	4¼	1	2	12	1	4	0
j	¼	1	0	0	1	1	6	1	2	16
j		0	18	19¾	1	0	0	1	1	8
	iij¾	0	17	15½	0	18	18	1	0	0
	iij½	0	16	11⅜	0	17	12	0	18	16
	iij¼	0	15	7½	0	10	6	0	17	8
	iij	0	14	2⅞	0	15	0	0	16	0
	ij¾	0	12	22⅝	0	13	18	0	14	16
	ij½	0	11	18⅜	0	12	12	0	13	8
	ij¼	0	10	14⅛	0	11	6	0	12	0
	ij	0	9	9⅞	0	10	0	0	10	16
	j¾	0	8	5⅝	0	8	18	0	9	8
	j½	0	7	1⅜	0	7	12	0	8	0
	j¼	0	5	21⅛	0	6	6	0	6	16
	j	0	4	17	0	5	0	0	5	8
	¾	0	3	12¾	0	3	18	0	4	0
	½	0	2	8½	0	2	12	0	2	16
	¼	0	1	4¼	0	1	6	0	1	8

Wo.		iij ½ gr			iij ¼ gr			iij gr		
ca.	gr.	oz	dt.	gr.	oz	dt.	gr.	oz	dt.	gr.
ij	ij	2	17	3¾	3	1	12⅞	3	6	16
ij	j¾	2	15	17⅛	3	0	0	3	5	0
ij	j½	2	14	6⅞	2	18	11⅛	3	3	8
ij	j¼	2	12	20⅝	2	16	22⅛	3	1	16
ij	j	2	11	10¼	2	15	9¼	3	0	0
ij	¾	2	10	0	2	13	20¼	2	18	8
ij	½	2	8	13¾	2	12	7¾	2	16	16
ij	¼	2	7	3⅜	2	10	18½	2	15	0
ij		2	5	17⅛	2	9	5½	2	13	8
j	iij¾	2	4	6⅞	2	7	16⅝	2	11	16
j	iij½	2	2	20⅝	2	6	3¾	2	10	0
j	iij¼	2	1	10¼	2	4	14¾	2	8	8
j	iij	2	0	0	2	3	1⅞	2	6	16
j	ij¾	1	18	13¾	2	1	12⅞	2	5	0
j	ij½	1	17	3⅜	2	0	0	2	3	8
j	ij¼	1	15	17⅛	1	18	11⅛	2	1	16
j	ij	1	14	6⅞	1	16	22⅛	2	0	0
j	j¾	1	12	20⅝	1	15	9¼	1	18	8
j	j½	1	11	10¼	1	13	20¼	1	16	16
j	j¼	1	10	0	1	12	7¾	1	15	0
j	j	1	8	13¾	1	10	18½	1	13	8
j	¾	1	7	3⅜	1	9	5½	1	11	16
j	½	1	5	17⅛	1	7	16⅝	1	10	0
j	¼	1	4	6⅞	1	6	3¾	1	8	8
j		1	2	20⅝	1	4	14¾	1	6	16
	iij¾	1	1	10¼	1	3	1⅞	1	5	0
	iij½	1	0	0	1	1	12⅞	1	3	8
	iij¼	0	18	13¾	1	0	0	1	1	16
	iij	0	17	3⅜	0	18	11⅛	1	0	0
	ij¾	0	15	17⅛	0	16	22⅛	0	18	8
	ij½	0	14	6⅞	0	15	9¼	0	16	16
	ij¼	0	12	20⅝	0	13	20¼	0	15	0
	ij	0	11	10¼	0	12	7¾	0	13	8
	j¾	0	10	0	0	10	18½	0	11	16
	j½	0	8	13¾	0	9	5½	0	10	0
	j¼	0	7	3⅜	0	7	16⅝	0	8	8
	j	0	5	17⅛	0	6	3¾	0	6	16
	¾	0	4	6⅞	0	4	14¾	0	5	0
	½	0	2	20⅝	0	3	1⅞	0	3	8
	¼	0	1	10¼	0	1	12⅞	0	1	16

Wo.		ij ¾ gr.			ij ½ gr			ij ¼ gr		
ca.	gr.	oz	dt.	gr.	oz	dt.	gr	oz	dt.	gr.
ij	ij	3	12	17½	4	0	0	4	8	21⅜
ij	j¾	3	10	21⅞	3	18	0	4	6	16
ij	j½	3	9	2¼	3	16	0	4	4	10⅝
ij	j¼	3	7	6½	3	14	0	4	2	5⅜
ij	j	3	5	10⅞	3	12	0	4	0	0
ij	¾	3	3	15¼	3	10	0	3	17	18⅝
ij	½	3	1	19⅝	3	8	0	3	15	13⅜
ij	¼	3	0	0	3	6	0	3	13	8
ij		2	18	4⅜	3	4	0	3	11	2⅝
j	iij¾	2	16	8¾	3	2	0	3	8	21⅜
j	iij½	2	14	13⅛	3	0	0	3	6	16
j	iij¼	2	12	17½	2	18	0	3	4	10⅝
j	iij	2	10	21⅞	2	16	0	3	2	5⅜
j	ij¾	2	9	2¼	2	14	0	3	0	0
j	ij½	2	7	6½	2	12	0	2	17	18⅝
j	ij¼	2	5	10⅞	2	10	0	2	15	13⅜
j	ij	2	3	15¼	2	8	0	2	13	8
j	j¾	2	1	19⅝	2	6	0	2	11	2⅝
j	j½	2	0	0	2	4	0	2	8	21⅜
j	j¼	1	18	4⅜	2	2	0	2	6	16
j	j	1	16	8¾	2	0	0	2	4	10⅝
j	¾	1	14	13⅛	1	18	0	2	2	5⅜
j	½	1	12	17½	1	16	0	2	0	0
j	¼	1	10	21⅞	1	14	0	1	17	18⅝
j		1	9	2¼	1	12	0	1	15	13⅜
	iij¾	1	7	6½	1	10	0	1	13	8
	iij½	1	5	10⅞	1	8	0	1	11	2⅝
	iij¼	1	3	15¼	1	6	0	1	8	21⅜
	iij	1	1	19⅝	1	4	0	1	6	16
	ij¾	1	0	0	1	2	0	1	4	10⅝
	ij½	0	18	4⅜	1	0	0	1	2	5⅜
	ij¼	0	16	8¾	0	18	0	1	0	0
	ij	0	14	13⅛	0	16	0	0	17	18⅝
	j¾	0	12	17½	0	14	0	0	15	13⅜
	j½	0	10	21⅞	0	12	0	0	13	8
	j¼	0	9	2¼	0	10	0	0	11	2⅝
	j	0	7	6½	0	8	0	0	8	21⅜
	¾	0	5	10⅞	0	6	0	0	6	16
	½	0	3	15¼	0	4	0	0	4	10⅝
	¼	0	1	19⅝	0	2	0	0	2	5⅜

Wo.		ij gr			j ¾ gr			j ½ gr		
ca.	gr.	oz	dt	gr.	oz	dt.	gr.	oz	dt.	gr.
ij	ij	5	0	0	5	14	6⅞	6	13	8
ij	j¾	4	17	12	5	11	10¼	6	10	0
ij	j½	4	15	0	5	8	13¾	6	6	16
ij	j¼	4	12	12	5	5	17⅛	6	3	8
ij	j	4	10	0	5	2	20⅝	6	0	0
ij	¾	4	7	12	5	0	0	5	16	16
ij	½	4	5	0	4	17	3⅜	5	13	8
ij	¼	4	2	12	4	14	6⅞	5	10	0
ij		4	0	0	4	11	10¼	5	6	16
j	iij¾	3	17	12	4	8	13¾	5	3	8
j	iij½	3	15	0	4	5	17⅛	5	0	0
j	iij¼	3	12	12	4	2	20⅝	4	16	16
j	iij	3	10	0	4	0	0	4	13	8
j	ij¾	3	7	12	3	17	3⅜	4	10	0
j	ij½	3	5	0	3	14	6⅞	4	6	16
j	ij¼	3	2	12	3	11	10¼	4	3	8
j	ij	3	0	0	3	8	13¾	4	0	0
j	j¾	2	17	12	3	5	17⅛	3	16	16
j	j½	2	15	0	3	2	20⅝	3	13	8
j	j¼	2	12	12	3	0	0	3	10	0
j	j	2	10	0	2	17	3⅜	3	6	16
j	¾	2	7	12	2	14	6⅞	3	3	8
j	½	2	5	0	2	11	10¼	3	0	0
j	¼	2	2	12	2	8	13¾	2	16	16
j		2	0	0	2	5	17⅛	2	13	8
	iij¾	1	17	12	2	2	20⅝	2	10	0
	iij½	1	15	0	2	0	0	2	6	16
	iij¼	1	12	12	1	17	3⅜	2	3	8
	iij	1	10	0	1	14	6⅞	2	0	0
	ij¾	1	7	12	1	11	10¼	1	16	16
	ij½	1	5	0	1	8	13¾	1	13	8
	ij¼	1	2	12	1	5	17⅛	1	10	0
	ij	1	0	0	1	2	20⅝	1	6	16
	j¾	0	17	12	1	0	0	1	3	8
	j½	0	15	0	0	17	3⅜	1	0	0
	j¼	0	12	12	0	14	6⅞	0	16	16
	j	0	10	0	0	11	10¼	0	13	8
	¾	0	7	12	0	8	13¾	0	10	0
	½	0	5	0	0	5	17⅛	0	6	16
	¼	0	2	12	0	2	20⅝	0	3	8

Wo.		j¼ gr			j gr			¾ gr		
ca.	gr.	oz	dt.	gr.	oz	dt.	gr.	oz	dt.	gr.
ij	ij	8	0	0	10	0	0	13	6	16
ij	j¾	7	16	0	9	15	0	13	0	0
ij	j½	7	12	0	9	10	0	12	13	8
ij	j¼	7	8	0	9	5	0	12	6	16
ij	j	7	4	0	9	0	0	12	0	0
ij	¾	7	0	0	8	15	0	11	13	8
ij	½	6	16	0	8	10	0	11	6	16
ij	¼	6	12	0	8	5	0	11	0	0
ij		6	8	0	8	0	0	10	13	8
j	iij¾	6	4	0	7	15	0	10	6	16
j	iij½	6	0	0	7	10	0	10	0	0
j	iii¼	5	16	0	7	5	0	9	13	8
j	iij	5	12	0	7	0	0	9	6	16
j	ij¾	5	8	0	6	15	0	9	0	0
j	ij½	5	4	0	6	10	0	8	13	8
j	ij¼	5	0	0	6	5	0	8	6	16
j	ij	4	16	0	6	0	0	8	0	0
j	j¾	4	12	0	5	15	0	7	13	8
j	j½	4	8	0	5	10	0	7	6	16
j	j¼	4	4	0	5	5	0	7	0	0
j		4	0	0	5	0	0	6	13	8
j	¾	3	16	0	4	15	0	6	6	16
j	½	3	12	0	4	10	0	6	0	0
j	¼	3	8	0	4	5	0	5	13	8
j		3	4	0	4	0	0	5	6	16
	iii¾	3	0	0	3	15	0	5	0	0
	iij½	2	16	0	3	10	0	4	13	8
	iij¼	2	12	0	3	5	0	4	6	16
	iij	2	8	0	3	0	0	4	0	0
	ij¾	2	4	0	2	15	0	3	13	8
	ij½	2	0	0	2	10	0	3	6	16
	ij¼	1	16	0	2	5	0	3	0	0
	ij	1	12	0	2	0	0	2	13	8
	j¾	1	8	0	1	15	0	2	6	16
	j½	1	4	0	1	10	0	2	0	0
	j¼	1	0	0	1	5	0	1	13	8
	j	0	16	0	1	0	0	1	6	16
	¾	0	12	0	0	15	0	1	0	0
	½	0	8	0	0	10	0	0	13	8
	¼	0	4	0	0	5	0	0	6	16

Wo.		½ gr				¼ gr		
ca.	gr.	oz	dt.	gr.		oz	dt.	gr
ij	ij	20	0	0		40	0	0
ij	j¾	19	10	0		39	0	0
ij	j½	19	0	0		38	0	0
ij	j¼	18	10	0		37	0	0
ij	j	18	0	0		36	0	0
ij	¾	17	10	0		35	0	0
ij	½	17	0	0		34	0	0
ij	¼	16	10	0		33	0	0
ij		16	0	0		32	0	0
j	iij¾	15	10	0		31	0	0
j	iij½	15	0	0		30	0	0
j	iij¼	14	10	0		29	0	0
j	iij	14	0	0		28	0	0
j	ij¾	13	10	0		27	0	0
j	ij½	13	0	0		26	0	0
j	ij¼	12	10	0		25	0	0
j	ij	12	0	0		24	0	0
j	j¾	11	10	0		23	0	0
j	j½	11	0	0		22	0	0
j	j¼	10	10	0		21	0	0
j	j	10	0	0		20	0	0
j	¾	9	10	0		19	0	0
j	½	9	0	0		18	0	0
j	¼	8	10	0		17	0	0
j		8	0	0		16	0	0
	iij¾	7	10	0		15	0	0
	iij½	7	0	0		14	0	0
	iij¼	6	10	0		13	0	0
	iij	6	0	0		12	0	0
	ij¾	5	10	0		11	0	0
	ij½	5	0	0		10	0	0
	ij¼	4	10	0		9	0	0
	ij	4	0	0		8	0	0
	j¾	3	10	0		7	0	0
	j½	3	0	0		6	0	0
	j¼	2	10	0		5	0	0
	j	2	0	0		4	0	0
	¾	1	10	0		3	0	0
	½	1	0	0		2	0	0
	¼	0	10	0		1	0	0

Uſe of the GOLD TABLES.

The reports of gold better than ſtandard are at the top of the page, and thoſe which are worſe from 2 car. 2 gr. to ¼ of a carat grain on the ſide, and where they meet is ſeen how much of the better is to be added to one ounce of the worſe to make it ſtandard.

As if the gold you are to uſe in ſtandarding is j. *car.* ij. ob *gr.* Br. and that to be ſtandarded is ij. *car.* worſe; the table ſhews that 1 oz. 10 dwt. 18½ gr. is the quantity required, if it ſhould be j. *car.* ij. *gr.* Wo. it will require 18 dwt. 11⅛ gr. and if iij. *car.* ij. *gr.* Wo. then the above quantities of 1 oz. 10 dwt. 18½ gr. added to 18 dwt. 11⅛ gr. that is 2 oz. 9 dwt. 5⅝ gr. will be the quantity which muſt be added of j. *car.* iij. ob *gr.* Br. to one ounce of the worſe to make it ſtandard.

And if ſeveral different ingots are melted together all of them worſe, as ſuppoſe one Wo. j *car.* iij. ob *gr.* another Wo. ij. *car* ¼ *gr.* and a third Wo. ij. *car.* ij. *gr.* the table will ſhew what quantity of any fineneſs ſpecified that is better; as ſuppoſe ij. *car.* iij. ¾ *gr.* muſt be added to one ounce of the mixture to make it ſtandard; thus j. *car.* iij ob *gr.* requires 19 dwt. 8½ gr. that of ij. *car.* ¼ *gr.* requires 1 oz. 1 dwt. 7 gr. and that of ij. *car.* ij. *gr.* requires 1 oz. 5 dwt. 19⅜ gr. which being added together makes 3 oz. 6 dwt. 10⅞ gr. which muſt be added of j. *car.* iij ¾ *car.* to make it ſtandard.

If ſilver or gold is required to be ſtandarded which is more than j. oz. Wo. in the ſilver, or ij. car. ij. gr. in the gold; as ſuppoſe 2, 3, 4, 5, 6, &c. oz. it is but multiplying the quantity againſt one ounce, by the number of oz. and you have the anſwer, and the ſame for 3, 4, 6, 8, 9, &c. carats in the gold.

We ſhall now give the rule mentioned, p. 126. to find what part of any ingot that is worſe, is to be refined to any determinate fineneſs better, ſo that the remainder may be ſtandard.

If an ingot worſe than ſtandard is required to be made ſuch by refining, the firſt ſilver tables do ſhew how much muſt be fined off of each oz. and in proportion from any ingot according to its weight.

But if inſtead of refining the whole ingot till it be ſtandard, a part of it be taken and made better than ſtandard, in this caſe a greater or a leſſer part of it is requiſite, according to the fineneſs it is required to be brought to, and what this quantity muſt be according to the deſired fineneſs, is found by the following

RULE.

Multiply the weight of the ingot by its report, and this product by the total number of fine parts it is to be of when refined, divide this laſt product by the ſum of the two reports, multiplied into the fine parts in ſtandard, and the quotient is the anſwer.

Example . How much muſt be taken and refined to [illegible] Br. from a ſilver ingot weighing 486 oz. 10 dwt. Wo. [illegible] that the remainder may be ſtandard. *

```
dwt.     dwt.          oz. dwt.
222      222           486 10
 14       32½             20
———      ———          ————
236      444           9730
        666                18½  report of the ingot
dwt.     111          ————
 18½     ———          175140
 14      7215           4865
———                   ————
 32½ ſum of the       180005           [reduced to
 reports]                236    total fine parts to be
                      ————
                      1080030
                      540015
                     360010
                     ———————— (2|0
          7215)42481180)588|7
                      64061     294 oz. 7 dwt. 21½ gr.
                       63418
                        56980
                         6475
```

The quantity to be fined is 294 oz. 7 dwt. 21½ gr.

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* See Reynold's tables, page 54, 55.

An ingot of gold weighing 87 oz. 14 dwt. Wo. $\overset{car}{ij}$ what quantity of it muſt be taken from it and fined to $\overset{car}{j}\ \overset{gr}{iij}$ Br. that the remainder may be ſtandard.

car. gr.	cr. gr.	oz. dwt.
88 in ſtan.	88	87 14
7 Br.	15	20
95	1320	1754
		8 report of the ingot
7 Br.		14032
8 Wo.		95 total fine parts
15 ſum of the reports	132|0)1333	4|0(100|9$\frac{29}{33}$
		50 oz. 9 dwt. 21 gr. (to be fined

When ſilver better than ſtandard is to be ſtandarded with fine copper, there muſt be 1 grain added to each ounce of ſilver for every ½ dwt. it is better, 2 grains for each dwt. better, and ſo on as in the following table:

Br.	dt.gr.	Br.	dt.gr.	Br.	dt.gr.
xviij	1 12	xij	1 0	vj	0 12
xvij ob	1 11	xj ob	0 23	v ob	0 11
xvij	1 10	xj	0 22	v	0 10
xvj ob	1 9	x ob	0 21	iiij ob	0 9
xvj	1 8	x	0 20	iiij	0 8
xv ob	1 7	ix ob	0 19	iij ob	0 7
xv	1 6	ix	0 18	iij	0 6
xiiij ob	1 5	viij ob	0 17	ij ob	0 5
xiiij	1 4	viij	0 16	ij	0 4
xiij ob	1 3	vij ob	0 15	j ob	0 3
xiij	1 2	vij	0 14	j	0 2
xij ob	1 1	vj ob	0 13	ob	0 1

In like manner when gold that is better is to be ſtandarded with roſe copper, there muſt be 1¼ grain added for each quarter carat grain, 5 gr. for each carat grain, and 20 gr. for each carat that the gold is better, and ſo on in proportion as in the table.*

ca.	gr.	dt.	gr.	ca.	gr.	dt.	gr.	gr.	dt.	gr.
ij		1	16	j	1¼	1	2¼	ij½	0	12½
j	iij¾	1	14¾	j	1	1	1	ij¼	0	11¼
j	iij½	1	13½	j	¾	0	23¾	ij	0	10
j	iij¼	1	12¼	j	½	0	22½	j¾	0	8¾
j	iij	1	11	j	¼	0	21¼	j½	0	7½
j	ij¾	1	9¾	j		0	20	j¼	0	6¼
j	ij½	1	8½		iij¾	0	18¾	j	0	5
j	ij¼	1	7¼		iij½	0	1 ½	¾	0	3¾
j	ij	1	6		iij¼	0	16¼	½	0	2½
j	j¾	1	4¾		iij	0	15	¼	0	1¼
j	j½	1	3½		ij¾	0	13¾			

To make this work more uſeful, we have added the figures of ſeveral foreign gold and ſilver coins with their fineneſſes; that is, how much Br. or Wo. than ſtandard, from whence their value per oz. is ſoon obtained, by the tables in p. 49, 50. according to the price ſtandard bears at any particular time.

As alſo a ſmall table of the different methods of expreſſing the fineneſs of ſilver abroad, wherein it muſt be obſerved that the Denier is divided into 24 grains, and is uſed in Holland, France, Spain, Portugal and Italy; the Lodig into 18 grains uſed in Germany, the Carat is in uſe only at Venice, the Matt on the coaſt of coromandel, and the Touch in china

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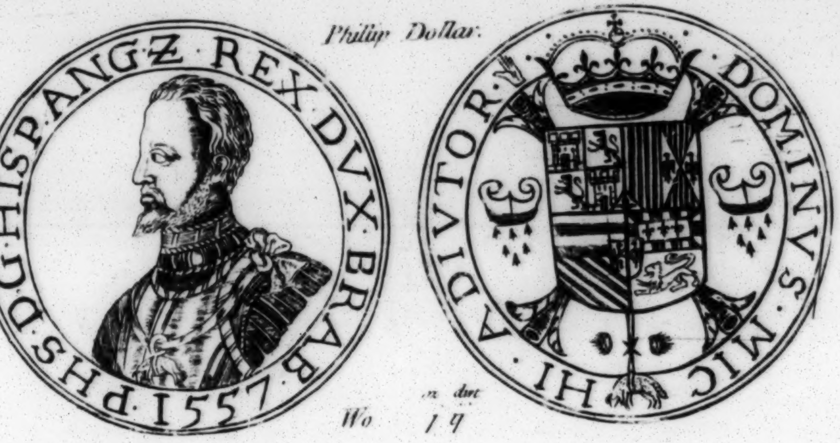
* Experience is the beſt guide what little difference will be occaſioned by waſte in the melting.

A TABLE of the agreement of the expreſſions uſed abroad for fineneſs, with thoſe in uſe here in England.

oz.	den.	gr.	lod.	gr.	carats.	matt.	touch
12	12	0	16	0	1152	10	100
ſtan.	11	$2\frac{2}{5}$	14	14	$1148\frac{14}{15}$	$9\frac{1}{4}$	$92\frac{1}{2}$
11	11	0	14	12	1506	$9\frac{1}{6}$	$91\frac{2}{3}$
10	10	0	13	6	960	$8\frac{1}{3}$	$83\frac{1}{3}$
9	9	0	12	0	864	$7\frac{1}{2}$	75
8	8	0	10	12	768	$6\frac{2}{3}$	$66\frac{2}{3}$
7	7	0	9	6	672	$5\frac{5}{6}$	$58\frac{1}{3}$
6	6	0	8	0	576	5	50
5	5	0	6	12	480	$4\frac{1}{6}$	$41\frac{2}{3}$
4	4	0	5	6	384	$3\frac{1}{3}$	$33\frac{1}{3}$
3	3	0	4	0	288	$2\frac{1}{2}$	25
2	2	0	2	12	192	$1\frac{2}{3}$	$16\frac{2}{3}$
1	1	0	1	6	96	$0\frac{5}{6}$	$8\frac{1}{3}$
19dt.	0	$22\frac{4}{5}$	1	$4\frac{4}{5}$	$91\frac{1}{5}$	$0\frac{19}{24}$	$7\frac{11}{12}$
18	0	$21\frac{3}{5}$	1	$3\frac{3}{5}$	$86\frac{2}{5}$	$0\frac{3}{4}$	$7\frac{1}{2}$
17	0	$20\frac{2}{5}$	1	$2\frac{2}{5}$	$81\frac{3}{5}$	$0\frac{17}{24}$	$7\frac{1}{12}$
16	0	$19\frac{1}{5}$	1	$1\frac{1}{5}$	$76\frac{4}{5}$	$0\frac{2}{3}$	$6\frac{2}{3}$
15	0	18	1	0	72	$0\frac{5}{8}$	$6\frac{1}{4}$
14	0	$16\frac{4}{5}$	0	$16\frac{4}{5}$	$67\frac{1}{5}$	$0\frac{7}{12}$	$5\frac{5}{6}$
13	0	$15\frac{3}{5}$	0	$15\frac{2}{5}$	$62\frac{2}{5}$	$0\frac{13}{24}$	$5\frac{5}{12}$
12	0	$14\frac{2}{5}$	0	$14\frac{2}{5}$	$57\frac{3}{5}$	$0\frac{1}{2}$	5
11	0	$13\frac{1}{5}$	0	$13\frac{1}{5}$	$52\frac{4}{5}$	$0\frac{11}{24}$	$4\frac{7}{12}$
10	0	12	0	12	48	$0\frac{5}{12}$	$4\frac{1}{6}$
9	0	$10\frac{4}{5}$	0	$10\frac{4}{5}$	$43\frac{1}{5}$	$0\frac{3}{8}$	$3\frac{3}{4}$
8	0	$9\frac{3}{5}$	0	$9\frac{3}{5}$	$38\frac{2}{5}$	$0\frac{1}{3}$	$3\frac{1}{3}$
7	0	$8\frac{2}{5}$	0	$8\frac{2}{5}$	$34\frac{3}{5}$	$0\frac{7}{24}$	$2\frac{11}{12}$
6	0	$7\frac{1}{5}$	0	$7\frac{1}{5}$	$28\frac{4}{5}$	$0\frac{1}{4}$	$2\frac{1}{2}$
5	0	6	0	6	24	$0\frac{5}{24}$	$2\frac{1}{12}$
4	0	$4\frac{4}{5}$	0	$4\frac{4}{5}$	$19\frac{1}{5}$	$0\frac{1}{6}$	$1\frac{2}{3}$
3	0	$3\frac{3}{5}$	0	$3\frac{3}{5}$	$14\frac{2}{5}$	$0\frac{1}{8}$	$1\frac{1}{4}$
2	0	$2\frac{2}{5}$	0	$2\frac{2}{5}$	$9\frac{3}{5}$	$0\frac{1}{12}$	$0\frac{5}{6}$
1	0	$1\frac{1}{5}$	0	$1\frac{1}{5}$	$4\frac{4}{5}$	$0\frac{1}{24}$	$0\frac{5}{12}$
$\frac{1}{2}$	0	$0\frac{3}{5}$	0	$0\frac{3}{5}$	$2\frac{2}{5}$	$0\frac{1}{48}$	$0\frac{5}{24}$

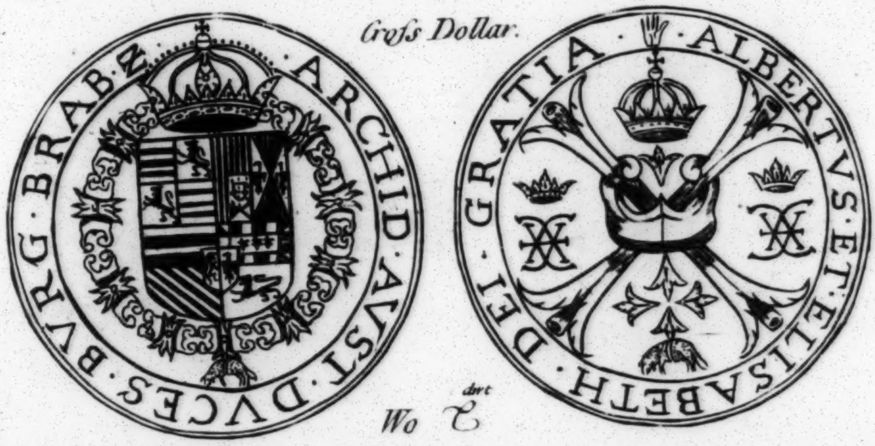
FINIS.

Philip Dollar.



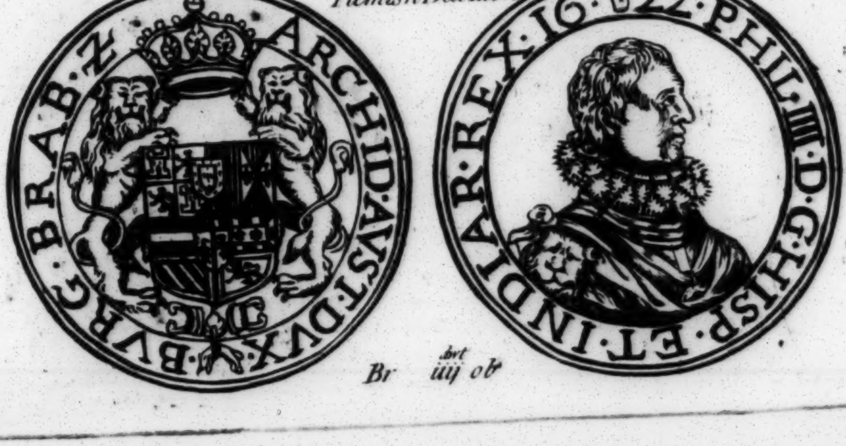
Wo $\overset{oz}{1}$ $\overset{dwt}{9}$

Croſs Dollar.

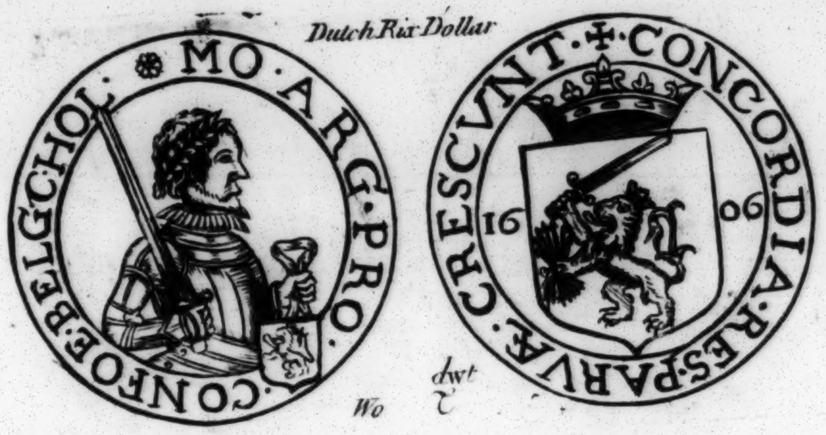

ARCHID·AVST·DVCES·BVRG·BRAB·Z
ALBERTVS·ET·ELISABETH·DEI·GRATIA

Wo $\overset{dwt}{C}$

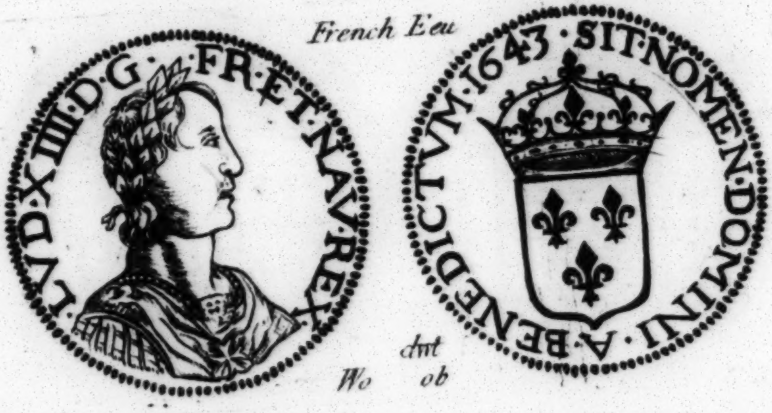
Flemish Ducaton


ARCHID·AVST·DVX·BVRG·BRAB·Z
16 22·PHIL·IIII·D·G·HISP·ET·INDIAR·REX

Br $\overset{dwt}{\text{iiij}}$ *ob*

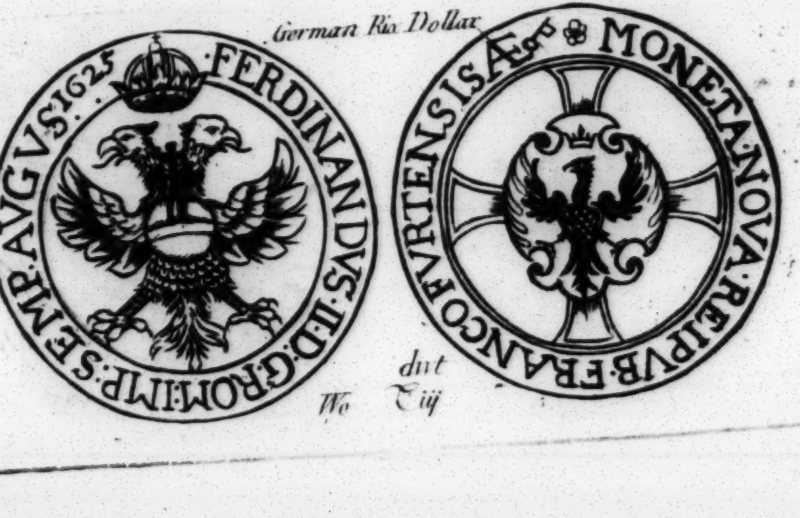

Dutch Rix Dollar

Wo dwt Ꞇ


French Ecu

LVD·XIIII·D·G·FR·ET·NAV·REX·
1643·SIT·NOMEN·DOMINI·A·BENEDICTVM·

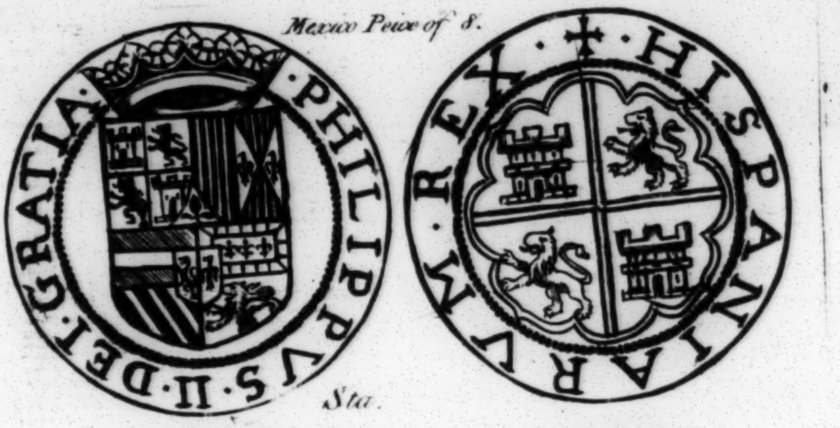
Wo dwt ob


German Rix Dollar

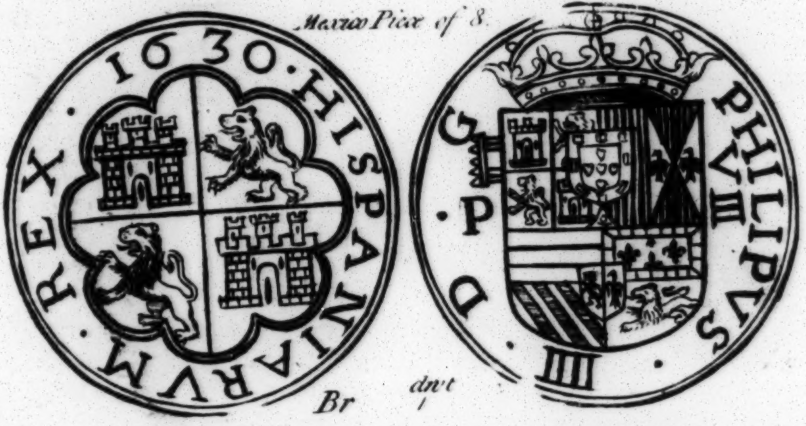
FERDINANDVS·II·D·G·ROM·IMP·SEMP·AVGVS·1625·
MONETA·NOVA·REIPVB·FRANCOFVRTENSIS·Æ

Wo dwt Ꞇiij

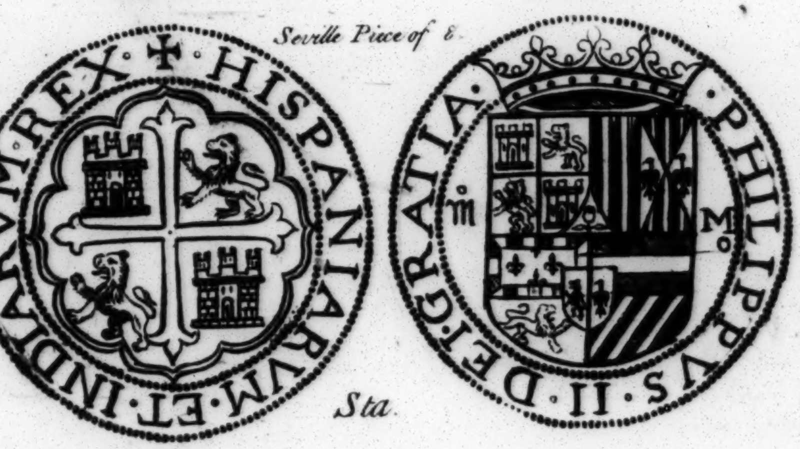
Mexico Peice of 8.

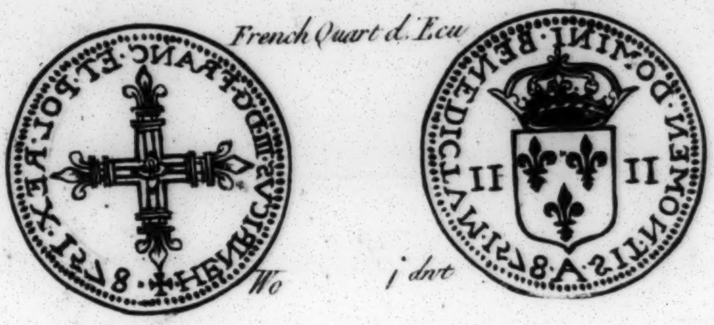


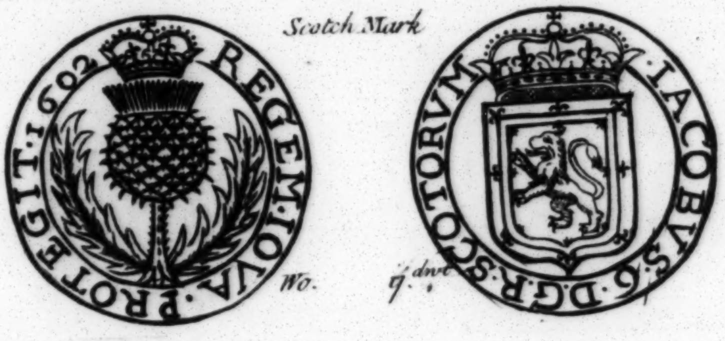
Mexico Piece of 8.

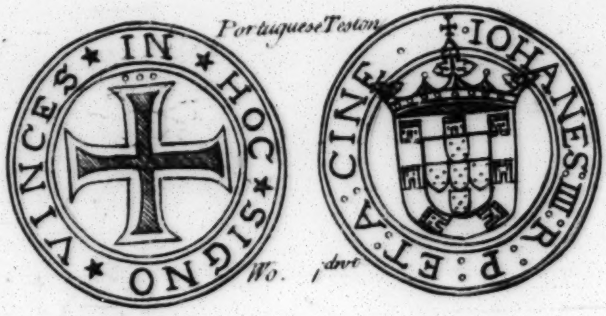


Seville Piece of 8.

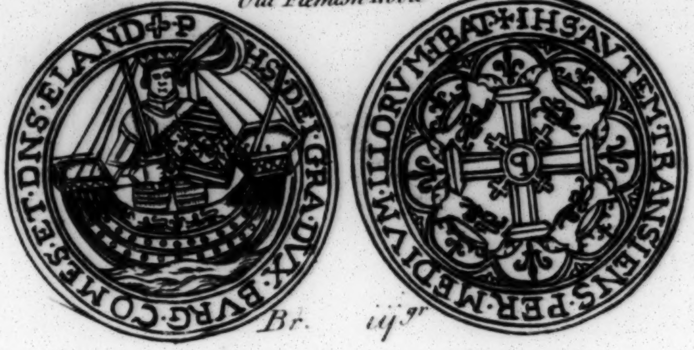



French Quart d'Ecu
HENRICVS·III·D·G·FRANC·ET·POL·REX·1578
SIT·NOMEN·DOMINI·BENEDICTVM·1578·A
II
II
Wo
j dwt

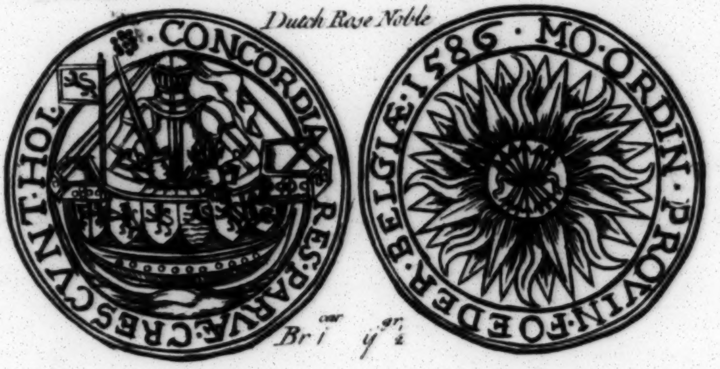

Scotch Mark


Portuguese Teston

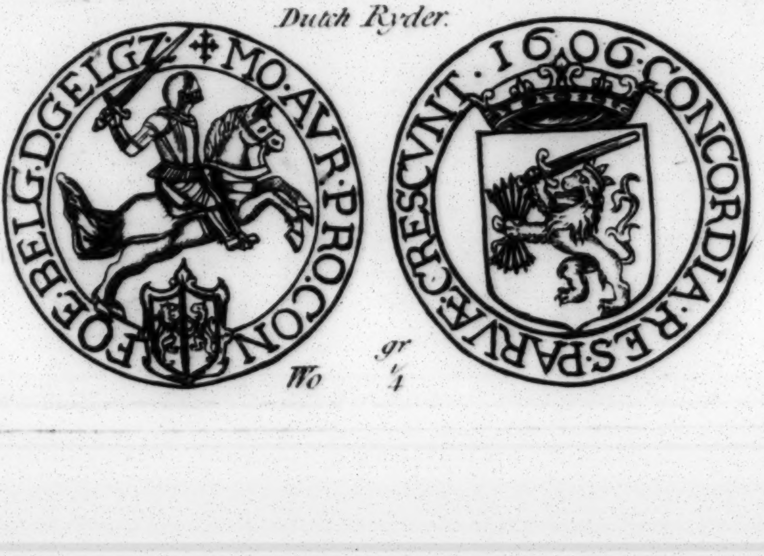
Old Flemish Noble


PHS·DEI·GRA·DVX·BVRG·COMES·ET·DNS·ELAND
IHS·AVTEM·TRANSIENS·PER·MEDIVM·ILLORVM·IBAT
Br.
iij gr

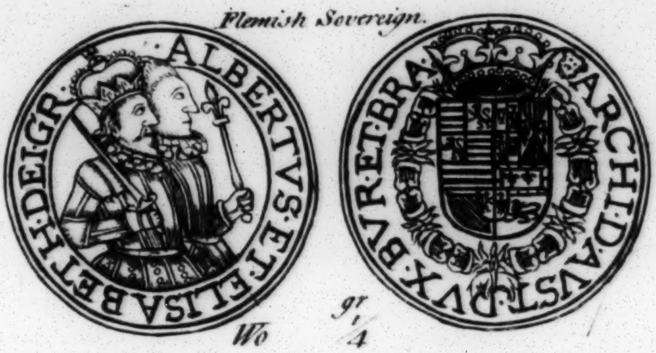
Dutch Rose Noble


CONCORDIA·RES·PARVÆ·CRESCVNT·HOL
1586·MO·ORDIN·PROVIN·FOEDER·BELGIÆ
Br i car
ij gr ½

Dutch Ryder.

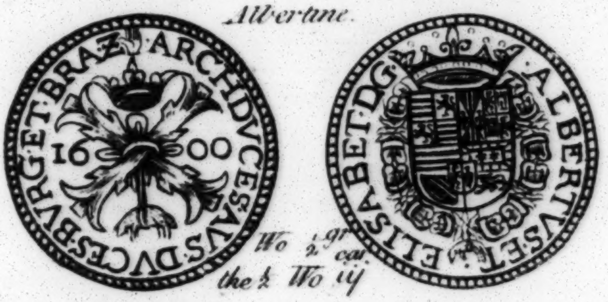

MO·AVR·PRO·CON·FOE·BELG·D·GELG·Z
1606·CONCORDIA·RES·PARVÆ·CRESCVNT
Wo
gr ¼

Flemish Sovereign.



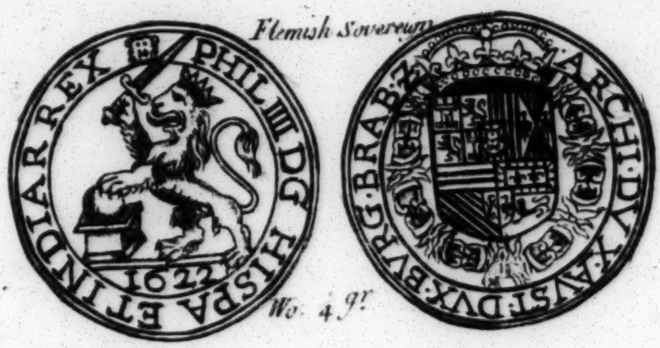
Wo *gr* *¼*

Albertine.



Wo ½ gr car
the ½ Wo iij

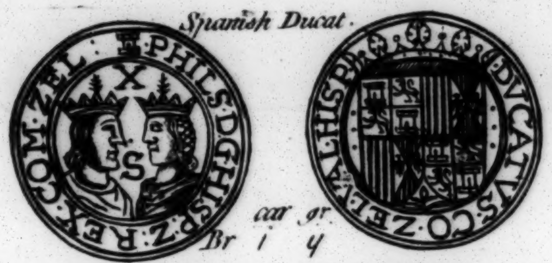
Flemish Sovereign


PHIL·IIII·D·G·HISPA·ET·INDIAR·REX·
1622
ARCHI·DVX·AVST·DVX·BVRG·BRABZ·

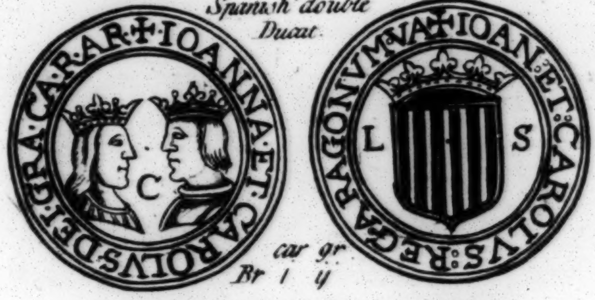
Wo. 4 gr

-4

Spanish Ducat.

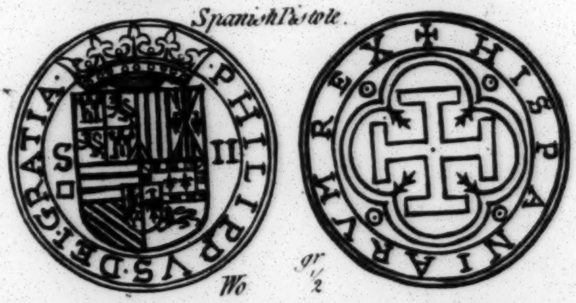


Spanish double Ducat.

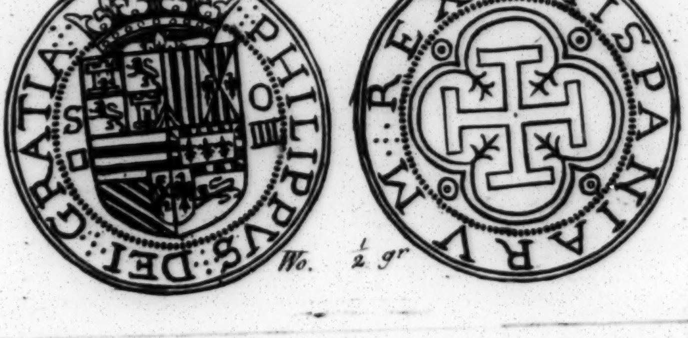


IOANNA·ET·CAROLVS·DEI·GRA·CA·R·AR
C
IOAN·ET·CAROLVS·REG·ARAGONVM·VA
L
S
car gr
Br 1 4

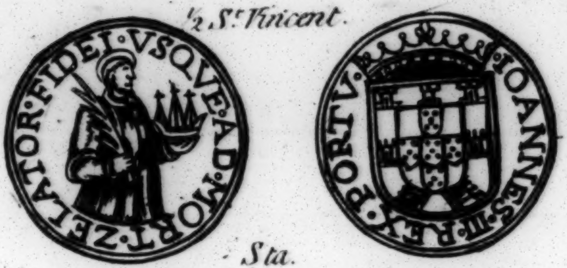
Spanish Pistole.



Spanish Doublon

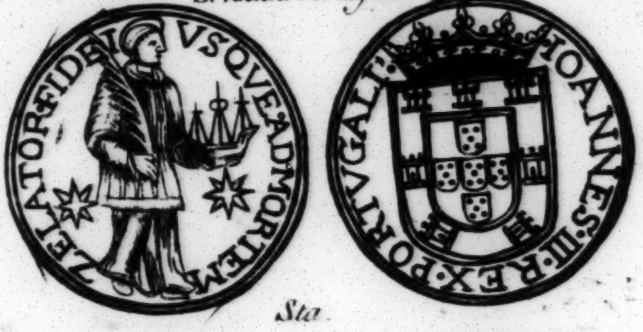


½ S.t Vincent.



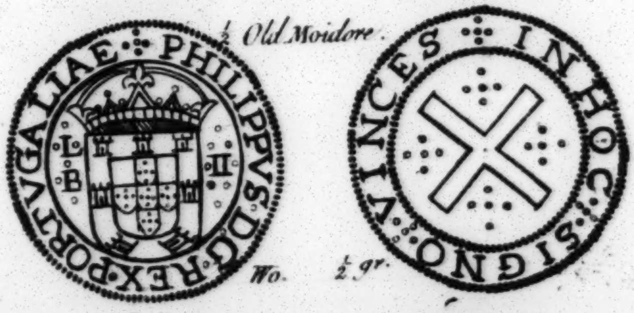
Sta.

S.t Vincent Portuguese.



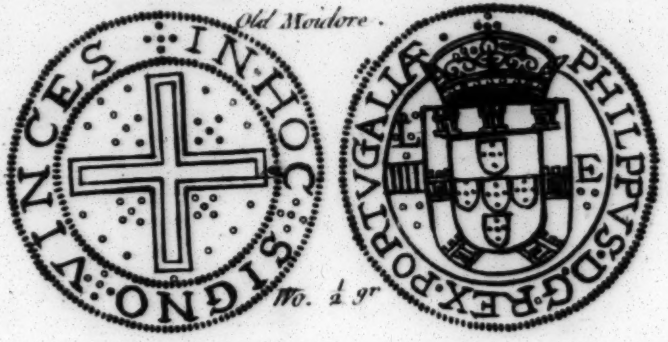
Sta.

½ Old Moidore.



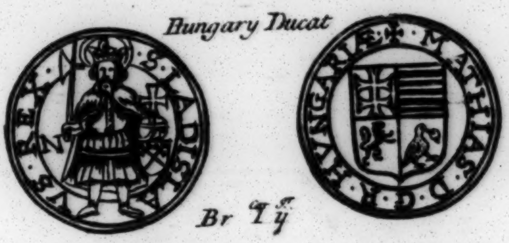
Wo. ½ gr.

Old Moidore.



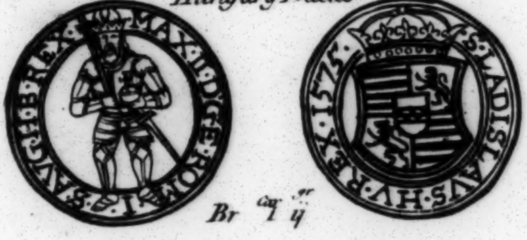
Wo. ½ gr

Hungary Ducat



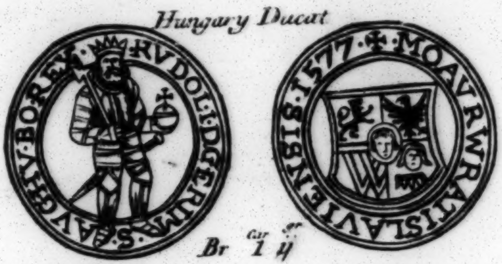
Br $\overset{car}{1}\ \overset{gr}{4}$

Hungary Ducat



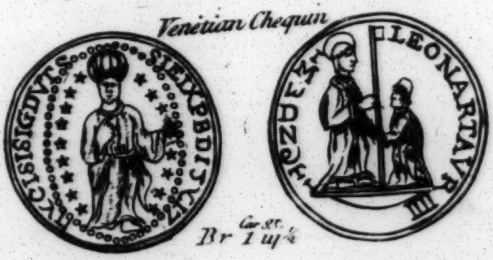
Br $\overset{car}{1}\ \overset{gr}{4}$

Hungary Ducat


RVDOL·II·D·G·E·R·I·M·S·AVG·H·V·BO·REX
1577·MO·AVR·WRATISLAVIENSIS

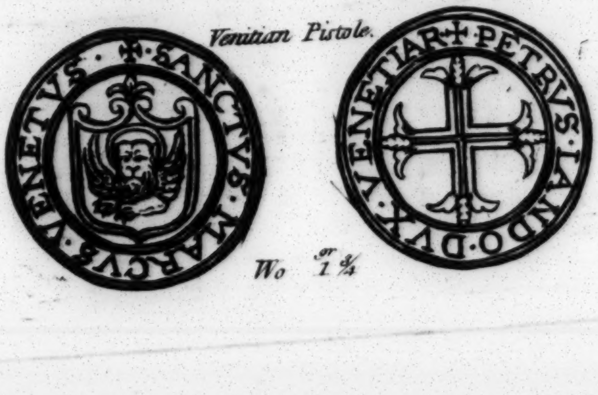
Br $\overset{car}{1}\ \overset{gr}{4}$

Venetian Chequin



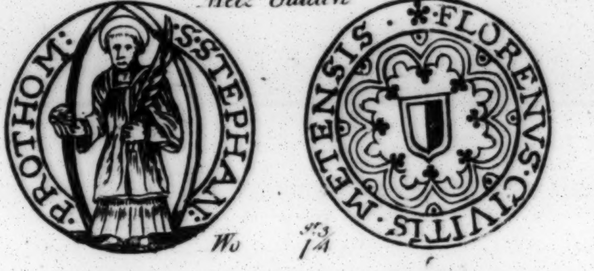
Br $\overset{car}{1}\ \overset{gr}{4\tfrac{1}{2}}$

Venitian Pistole.

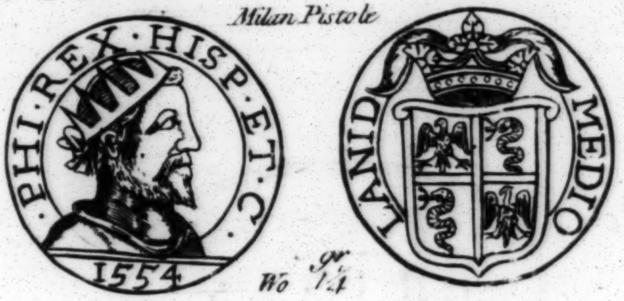


Wo $\overset{gr}{1\tfrac{3}{4}}$

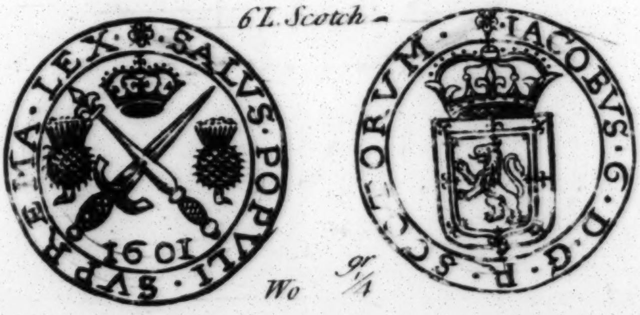
Metz Gulden



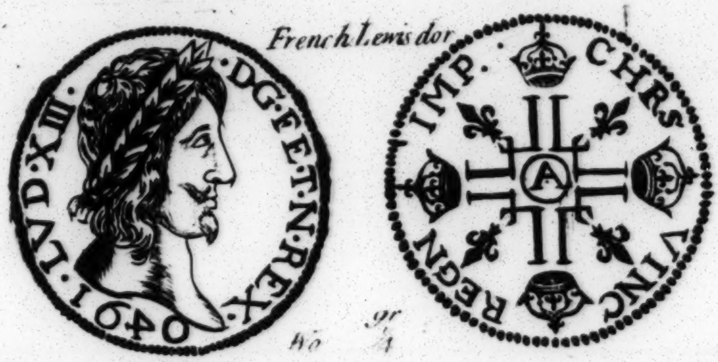
Milan Pistole



6 L. Scotch



French Lewis dor



MVSEVM
BRITAN
NICVM